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REPLY, IN PART TO HON. C. B. CALVERT, ON SURFACE MANURING, &c.

In the January number of our Journal, page 235, will be found a communication from the *Hon. Charles B. Calvert*, in reply to an article written by the Senior Editor of this paper, which appeared in the preceding month, upon the above subject. The occasion which called forth our remarks was this: We had been repeatedly called upon to express our opinion of Dr. Baldwin's system of surface manuring, which we had refrained from doing; *first*, because, whether good or bad, we knew that he was not the originator, *secondly*, because we did not coincide in the views of that gentleman, and, *thirdly*, because we are averse from controversy, and had contented ourself, with a few exceptions, when we met with articles making recommendations in agricultural management, that did not meet our views, to give such advice, from time to time, as were calculated, if followed, to prevent any evil results, without reference to any one, leaving the reader to make the application in the way which to him might seem most meet and proper.

We have premised, that in the discharge of our agricultural duties we were averse from controversy, and in all sincerity we now affirm, that it gives us much pain to be compelled by a sense of duty to the agricultural community to reply to the direct *challenge* from our esteemed friend, who has so chivalrously thrown down the gauntlet. For Mr. Calvert we cherish feelings of the most disinterested friendship; we admire him for the power of his intellect, for his patriotism, and for his untiring devotion to the cause of agriculture; but standing, as we do, in the position in which he has thought proper to place us, without manifesting a craven spirit, which does not belong to us, sentiment must give way to that duty we owe to the agricultural public, by the force of which we shall now attempt our reply, which we do under feelings of unmixed pain, that we should have so radically to differ from our friend.

In our article to which Mr. Calvert objects, we sustained our own views, by reference to those of Sir *John Sinclair*, Sir *Humphry Davy*, and the late Judge *Buel*. The allusion to the opinions of these gentlemen, being coincident with those we entertain, appears to have given offence to Mr. C., who seems to be disposed to bury them in the same common grave, and says that we "*ought not to attempt to frighten young America, in this age of progress, by calling up the spirits of those who would be considered now old fogies, to sustain his views.*"

Now the authors we quoted have, it is true, departed, and are as we trust reposing with their God, as the reward of their well spent lives, but we had no occasion to "call up their spirits," for we had the benefit of their *works*, written in the strength and vigor of their manhood; *works* that will live through all time; works that were the ripe fruits of their own experience and close observation. And who are those "*old fogies?*"

1st. Sir *John Sinclair*, a man, who, by his labors in behalf of agriculture, is entitled to a monument in every agriculturist's heart—a man whose personal exertions, and enlightened teachings, brought up the agriculture of Scotland from a depressed condition, to be worthy of being considered, as it is, a model for Europe and America; a man whose great work, entitled, "*The Code of Agriculture*," is, and will continue to be, a standard work on agriculture, for it embraces the most enlightened, *practical* views on every branch of agriculture, and is, withal, so full of the details of the culture of every kind of crop, so plainly written, that he who runs may read, and reading, understand. Sir *John*, would not in this age, when one unmeaning theory succeeds another, with such rapid strides, as to make confusion worse confounded, be considered a *scientific* agriculturist, but *he* was, and *his book* is now, considered in a higher light; he as an enlightened practical farmer, and his great work as being the wise results of a long life devoted to the promotion of the interests and happiness of those engaged in cultivating the earth. As a proof of the correctness of what we say, we will state that, although his book is a costly one, costing upwards of £6 sterling, it has gone through many editions, the one we have, is the *fifth*. Strong evidence that he is not looked upon as an "*old fogey*," nor his teachings as old fogyism; but on the contrary, as proof of the unshaken confidence of the agricultural world in his patriotism, in his enlightened views, and in his profound wisdom.

2d. Sir *Humphry Davy*. Why he should be denounced as an old fogy, is incomprehensible to us, unless it be, because he is *dead*. In his life-time

he was considered worthy of receiving many honors, he was an L. L. D., a F. R. S. L. and E. M. R. J., a member of the Board of Agriculture of the Royal Irish Academy, of the Academies of St. Petersburg, Stockholm, Berlin, Philadelphia, &c., and Honorary Professor of Chemistry to the Royal Institution. Now, all these honors would go for naught with us, if he had not stonger evidence than *position*, of his excellent worth as an agricultural chemist; for we have lived long enough in this progressive age, to see those whose only claim to consideration was derived from the accident of position. If you asked, where are the evidences of their fitness? *echo* would answer, where? But Sir *Humphry Davy's* claims to distinction, were based upon his individual merits—upon his learning, and upon his enlightened works as an agricultural chemist. It will be recollected that he was the *pioneer*, in the application of chemistry to agriculture. The "course of lectures which he delivered for the Board of Agriculture, London, which have been embodied and published in a volume, together with an appendix containing a series of experiments, to test the value of the Grasses cultivated in Great Britain," will remain as a memorial of the vast amount of gratitude due him by the cultivators of the earth. The science of chemistry was not so far advanced, when Sir Humphry Davy wrote, as it is now. The analyses made by other chemists since his day, have, we are free to confess, added many facts, many hypotheses, and much more theory, to the sum of scientific knowledge, but, unfortunately, hypothesis and theory, often lack the reliable basis of practical experience, to give force to them as principles. Nay, in many instances those hypotheses, and those theories, when they come to be tested by, and compared with, practice, have sadly failed in their results. The principles, on the other hand, which Davy enunciated were, in the main, predicated upon his own experiments, assiduously carried out, his object being truth, uninfluenced by any pride of theory that he had previously formed, and hence his labors were the more reliable. As the *pioneer* agricultural chemist, the agricultural world owe him a profound debt of gratitude, and it owes much also to those agricultural chemists who have succeeded him; for each and all have conferred large benefits, and the more, when they relied upon actual experiments, more than upon their *fancy*, for the deduction of agricultural truth, which they drew.

We are not without good authority for the high estimate we entertain of Sir Humphry Davy, for Professor *Schulze*, a distinguished chemist of *Jena*, in a review of Baron Liebig's work on the "*Organic Chemistry of Agriculture*, &c.," says :—

"The opinions which have been recently expressed by educated men, that chemistry is of no use to practical agriculture, and that the most useful theories of agriculture may be devised without any help of chemistry by agriculturists, have been induced by the *excessive claims, and errors of some particular agriculturist chemist* "

He gives Sir Humphry Davy as a fine example for chemists to follow, and adds, that *Thaer* had his, Davy's, Lectures on Agriculture, translated and published with his own notes in 1814. *Thaer* stood at the head of practical farmers in Germany, and was, withal, a good chemist. It is not, therefore likely, that a gentleman so learned, and so distinguished as was the great agriculturist, *Thaer*, would have gone to the expense of translating and publishing Davy's work, had it not been intrinsically valuable.

And that Professor *Johnston* had too much reverence for Sir Humphry Davy, to place him in the category of "old fogies," we give the following extract from his admirable lectures, and pray leave to suggest, that Prof. Johnston was both an eminent chemist and distinguished practical farmer. Had he looked upon Sir H. Davy as among the unreliable by-gones, he most assuredly would not have quoted him as authority. This is what he says, and upon which we rely:—

"*Pigeon's Dung* is much prized as a manure wherever it can be obtained in any considerable quantity. In Belgium it is esteemed as a top-dressing for the young flax, and the yearly produce of 100 pigeons is sold for about 20 *s*. Its immediate effect depends upon the quantity of soluble matter it contains, and this varies much according to its age and the circumstances under which it has been preserved. Thus Davy (Davy's Agricultural Chemistry, Lecture VI.,) and Sprengel obtained respectively of

	Recent. Davy.	Six months old. Sprengel.	After fermentation. Davy.
Soluble matter in Pigeon's Dung	22 per ct.	16 per ct.	8 per ct.

The soluble matter consists of uric acid in small quantities, of urate, sulphate, and especially of carbonate of ammonia, common salt, and sulphate of pot-ash:—the insoluble chiefly of phosphate of lime, with a little phosphate of magnesia, and a variable admixture of sand and other earthy matters. (Sprengel's Lehre von Dunger, page 140.) When exposed to moisture, the pigeon's dung, especially, if recent, undergoes fermentation, *loses a portion of its ammoniacal salts, and thus becomes less valuable.* When it is intended to be kept it should be mixed with dry vegetable soil, or made into a compost with earth and saw dust, with a portion of pulverized or charred peat, or with such a disaffecting charcoal as that which is employed in the manufacture of the animalized carbon above described."

3d. The third of our authorities that our friend has denounced as an "old fogey," is the late Judge *Buel*, of Albany, New York, who, it will be recollected, established the *Albany Cultivator*, and edited it with distinguished ability up to the day of his death. No one ever accused him of being an old fogey during his lifetime, and why he should be so considered now, is a marvel to us. The Judge, in addition to being an enlightened gentleman, a good writer, was a practical farmer, and followed himself, that which he taught in his excellent paper. The volumes of the Cultivator which he left behind him at the time of his death, show that he was no old fogey, but kept up regularly with the then improvements of the age. If he did not follow the wild *fancies* of mere theorists, he is in our opinion entitled to praise, not to condemnation. Truth in the principles of agriculture,

was, doubtless, his object, and, as a teacher of the noble art, it was his duty to reject all theories that were not based upon experience, justified by long and well conducted experiments; for no theory is worth a groat, that has not at least a course of seven years experiments to back it.

We have now shown who the gentlemen were whose opinions we cited to sustain our views, and who Mr. Calvert denounces as old fogies, and we trust that our readers will agree with us in the opinion, that better authority could not be found, upon any subject connected with the multifarious operations of farming. For ourself, our aspiration shall be, that God may commend us to such "old fogies," in the management of our farm.

Mr. Calvert in speaking further of our article says:—

"He commences his article with the bold assertion, that the ammoniacal gases constitute the most important element of manure, and is in fact the true value of manure, and is so considered by nearly all good chemists, as well as intelligent practical farmers," and adds: "I deny this proposition in toto, and I call upon him to produce the names of the distinguished chemists of the present day, and the practical farmers, who hold these opinions; for as far as I can judge, both of those classes utterly repudiate such a doctrine."

After so brave a denial by so distinguished a gentleman, of the truth of our proposition, that ammonia constitutes the true measure of the value of manures, it behooves us to refer to such authorities as our readers may safely rely upon to support our views. To begin then:—

Professor *Jas. F. W. Johnston*, in his lectures on the applications of chemistry and geology to agriculture, says:—

"According to *Boussingault* and other French authorities, *the relative efficacy of all manures depends upon the proportions of nitrogen they severally contain*, (*Annales de Chemie et de Phys.*, 3d series, III., ¶. 76.) And taking farm-yard manure—consisting of the mixed droppings and litter of cattle—as a standard, they arrange vegetable substances, as manures, in the following order of value:—

	Equal effects are produced by
Farm-yard manure	1000 lbs.
Potatoe and turnip (?) tops,	750 "
Carrot tops,	470 "
Natural Grass,	760 "
Clover roots,	250 "
Fresh sea-weed,	450 to 750 "
Sea-weed dried in the air,	300 "
Pea straw,	220 "
Wheat straw,	750 to 1700 "
Oat straw,	1400 "
Barley straw,	1000 to 2400 "
Buck-wheat straw,	850 "
Wheat chaff,	470 "
Fir saw-dust,	1700 to 2500 "
Oak do	750 "
Soot from coal,	300 "
Lint and rape-dust,	80 "

"The numbers in this table agree with the results of experiments in so far as they indicate that green substances generally, when ploughed in as manures, should enrich the soil more than an equal weight of farm-yard manure—that the roots of clover should be more enriching still—and that sea-weed is likewise a very valuable manure. They agree also with practical observation in placing pea, and probably bean straw, far above the straws of wheat, oats, &c., in fertilizing power, and in representing soot and rape-dust as more powerful than any of the other substances in the table. So far, therefore, a certain *general* reliance may be placed upon the fertilizing value of a substance as represented by the proportion of nitrogen it contains."

"But if we bear in mind that plants as we have frequently had occasion to mention, require inorganic as well as organic *food*, it is quite clear that the *mere* presence of nitrogen in a substance is not sufficient to render it highly nutritive to growing plants. Otherwise the salts of ammonia would be the richest manures of all, and would best nourish and bring to perfection every crop and in all circumstances—which experience has proved to be by no means the case. Hence

The value of vegetable substances as manures *must depend in some degree upon the quantity and kind of inorganic matter they contain.* In reference to the quantity of inorganic matter they respectively impart to the soil, their relative values are represented by the following numbers:—

	One ton contains of inorganic matter about
Potato tops, green,	26 lbs.
Turnip tops, do	48 "
Carrot tops, do	45 "
Rye-grass, do	30 "
Vetch, do	38 "
Green sea-weed,	22 "
Hay,	90 to 180 "
Pea straw,	100 "
Bean Straw,	60 to 80 "
Wheat straw,	70 to 360 "
Oat straw,	100 to 180 "
Barley straw,	100 to 120 "
Rye straw,	50 to 70 "
Fir saw-dust	6 "
Oak saw dust,	5 "
Soot,	500 "
Rape dust,	120 "

This table places the several vegetable substances in an order of efficacy considerably different from the former, in which they are arranged according to the quantity of nitrogen they respectively contain. We *know* that wood-ashes, kelp, and the ashes of straw, do promote the fertility of the land, and therefore the absolute as well as relative efficacy of the above vegetable substances must depend in some degree upon the quantity of inorganic matter they contain. But we should be wrong were we to ascribe the *total* effect of any of them to the inorganic matter alone.

"Even the carbonaceous matter of plants contributes its aid in increasing the produce of the soil, by supplying, either directly or indirectly, a portion of the necessary food of plants."

"It is the property of substances which contain a larger proportion of *nitrogen* to undergo a rapid decay in the presence of air and moisture, and thus to produce a more immediate and sensible action upon growing plants. But the carbon changes more slowly, and the inorganic matter also separates slowly from decaying vegetables in the soil—and hence the apparent effects of these constituents are less striking. *Thus the immediate and visible effects of different vegetable substances, in the same state, is measured by the relative quantities of nitrogen they contain—their permanent effects by the relative quantities of inorganic and of carbonaceous matters.* In the case of rape-dust, for example, the immediate effect is determined chiefly by its

nitrogen, the permanent effects, by the ash it leaves when burned, or when caused to undergo decay in the air."

Now we will give another table of Prof. *Johnston*, to show that the *quantity of ammoniacal salts*, in any given kind of manure, is considered the *measure of its value*. In so saying, we disavow ever having harbored the thought, that any manure solely composed of ammoniacal compounds, unmixed with inorganic substances, would prove a valuable lasting manure.

Prof. *Johnston*, observes:—

"I have already stated to you the theoretical opinion entertained by many, that *the efficacy of all manures is in proportion to the quantity of nitrogen they contain*. Adopting this principle as true, it is easy to assign to each substance its proper place in an artificial table. The last column in the following table shows the quantity of each substance *in its ordinary state of dryness*, which will be necessary to produce the same effect as 100 lbs. of common farm-yard manure, supposing the effect to be determined by the nitrogen alone.

	Water per ct.	Ash. per ct.	Nitrogen per ct.	equal effects produced by
Farm-yard manure,	80	3	¼	100 lbs.
Flesh,	77	1	3½	14 "
Fish,	80	2	2½	20 "
Blood,	70 to 83	1	3	16 "
Blood dried	12 to 20	3½	12 to 13	8 "
Skin	58	¼	8	12 "
Wool, hair and horn,	9 to 11	1 to 2	16	6 "
Bones,	14	40 to 60	5 to 9	11 to 20 "
Refuse charcoal of the sugar-works,	48	3	1	50 "
Animalized carb.	45	3	1	50 "

"I have already had occasion to remark, however, that this mode of classing manures is not altogether to be depended upon."

In the following paragraph, which we extract from Prof. Johnston's lectures, we accord precisely:—

"While then, we put so much faith in the theory as to believe that substances which contain much nitrogen are very likely to prove valuable manures,—we must not allow ourselves to be carried away by the simplicity of the principle as to believe either that their relative effects upon our crops may be *always* estimated by the proportion of nitrogen they contain, or that a substance may not largely increase the produce of our fields in which no nitrogen is present at all. Indeed, the effects of saline substances alone are sufficient to satisfy us how untrue to nature this latter opinion would be."

In our opinion, there can be no greater truths laid down than those above given. Soils there may be that have existing in them a sufficiency of ammoniacal compounds to afford the requisite quantity of that kind of food when aided by the atmospheric supply, but are deficient in other substances essential to the full development of plants and the maturation of their fruits. Hence we have, time after time, advanced the belief, that 100 lbs. of nitrogenous guano, with half the quantity of farm-yard manure usually applied, would be more effective—more lasting—than 300 lbs. of guano applied alone. We believe that, although nitrogenous compounds play so important a part in giving the measure of value to manures, that the inorganic substances which are to be found in plants and their fruits, by analyses, must be naurally present in the soil, or artificially applied, to produce a full crop. Hence then, we are alike a believer in the virtues of organic as well as in inorganic manures.

Before we leave the high authority of Prof. *Johnston*—and none can be higher—we will quote from a more recent work of his, entitled, "*Elements of Agricultural Chemistry.*"

Prof. Johnston says:—

"The fertilizing power of animal manures, in general, is dependent, like that of the soil itself upon the happy admixture they contain of a great number, if not of all, those substances which are required by plants in the universal vegetation of the globe. Nothing they contain, therefore, is without its share of influence upon their general effects, *yet the amount of nitrogen present in each affords the readiest and most simple criterion by which their agricultural value, compared with vegetable matters and with that of each other, can be pretty nearly estimated.* In reference to their relative quantities of nitrogen, therefore, they have been arranged in the following order, the number opposite to each representing the weight in pounds which is equivalent to or would produce the same sensible effect upon the soil as 100 lbs. of farm-yard manure.

Farm-yard manure,	100
Solid excrements of the cow,	125
" " " Horse,	73
Liquid do of the Cow,	91
" " " Horse,	16
Mixed do of the cow,	98
" " " Horse,	54
" " " Sheep,	36
" " " Pig,	64
Dry flesh,	3
Pigeons dung,	5
Flemish liquid manure,	200
Liquid blood,	15
Dry blood,	4
Feathers,	3
Cow hair,	3
Horn shavings,	3
Dry wollen rags,	2½

It is probable that the numbers in this table do not err very widely from the true relative value of these different manures, in so far as the *organic* matter they severally contain is concerned. The reader will bear in mind, however,

1. That the most powerful substances in this table, woollen rags, for example,—2½ lbs. of which are equal in virtue to 100 lbs. of farm-yard manure—may yet show less immediate sensible effect upon the crop than an equal weight of sheeps' dung, or even of urine. Such dry substances are long in dissolving and decomposing, and continue to evolve fertilizing matter, after the softer and more fluid manures have spent their force. Thus while farm-yard manure or rape-dust will hasten the growth of turnips, woolen rags will come into operation at a later period, and prolong their growth into autumn.

2. That besides their general relative value, as represented in the above table, each of these substances has a further special value not here exhibited, dependent upon the kind and quantity of saline and other inorganic matter which they severally contain. Thus three of dry flesh are equal to five of pigeon's dung, in so far as the organic part is concerned, but the latter contains also a considera-

ble quantity of bone earth and of saline matter scarcely present at all in the former. Hence pigeon's dung will benefit vegetation in circumstances where dry flesh would in some degree fail. So the liquid excrements contain much important saline matter not present in the solid excretions—not present in such substances as horn, wool, and hair,—and therefore, each must be capable of exercising an influence upon vegetation peculiar to itself.

Hence the practical farmer sees the reason why no one *simple* manure can long answer on the same land; and why in all ages and countries the habit of employing *mixed* manures and artificial composts has been universally diffused.

We shall now cite from *Baron Liebig*, in support of our proposition that ammoniacal gases were the true measure of the value of manures. He says:—

"We may furnish a plant with carbonic acid, and all the materials which it may require, we may supply it with humus in the most abundant quantity, *but it will not attain complete development unless nitrogen* is also afforded to it; an herb will be formed, but no grain; even sugar and starch may be produced but no gluten."

"But when we give a plant nitrogen in considerable quantity, we enable it to attract with greater energy, from the atmosphere, the carbon which is necessary for its nutrition, when that in the soil is not sufficient; we afford to it a means of fixing the carbon of the atmosphere in its organism."

"We cannot ascribe much of the power of the excrements of black cattle, sheep and horses, to the nitrogen they contain, for its quantity is too minute. But that contained in the fæces of man is proportionably much greater, although by no means constant. In the fæces of the inhabitants of towns, for example, who feed on animal matter, there is much more of this constituent than in those of peasants, or of such persons as reside in the country. The fæces of those who live principally on bread and potatoes are similar in composition and properties to those of animals.

"All excrements have in this respect a very variable and relative value. Thus those of black cattle and horses, are of great use on soils consisting of lime and sand, which contain no silicate of potash and phosphates, whilst their value is much less when applied to soils formed of argillaceous earth, basalt, granite, porphyry, clinkstone, and even mountain limestone, because all these contain potash in considerable quantity. In such soils human excrements are extremely beneficial, and increase their fertility in a remarkable degree; they are of course, as advantageous for other soils also; but for the manure of those first mentioned, the excrements of other animals are quite indispensable.

"We possess only one other source of manure *which acts by its nitrogen*, besides the fæces of animals,—namely, the urine of man and animals."

"Urine is employed as manure either in the liquid state, or with the fæces which are impregnated with it. *It is the urine contained in them which gives to the solid fæces the property of emitting ammonia*, a property which they themselves possess only in a very slight degree.

"When we examine what substances we add to a soil by supplying it with urine, we find that this liquid contains in solution ammoniacal salts, uric acid, (a substance containing a large quantity of nitrogen,) and salts of phosphoric acid.

According to *Berzelius*, 1000 parts of human urine contain:—

Urea,	30.10
Free lactic acid, lactate of ammonia, and animal matter not separable from them,	17.14
Uric acid,	1.00
Mucus of the bladder,	0.32
Sulphate of potash,	3.71
Sulphate of soda,	3.16
Phosphate of soda,	2.94
Phosphate of ammonia,	1.05
Chloride of sodium,	4.45
Muriate of ammonia,	1.50
Phosphates of magnesia and lime,	1.00
Siliceous earth,	0.03
Water,	993.00
	1000.00

"If we subtract from the above the urea, lactate of ammonia, free lactic acid, the phosphate and muriate of ammonia, 1 per cent. of solid matter remains, consisting of inorganic salts, which must possess the same action when brought on a field, whether they are dissolved in water or urine.—Hence the powerful influence of urine must depend upon its other ingredients, namely the *urea** and *ammoniacal salts*. The urea in human urine exists partly as lactate of urea, and partly in a free state. (Henry.) Now when urine is allowed to putrefy spontaneously, that is, to pass into that state in which it is used as manure, all the urea in combination with lactic acid is converted into lactate of ammonia, and that which was free, into volatile carbonate of ammonia.

"In dung reservoirs *well constructed and protected from evaporation*, this carbonate of ammonia is retained in the state of solution, and when the putrified urine is spread over the land, a part of the ammonia will escape with the water which evaporates; but another portion will be absorbed by the soil, *if it contains either alumina or iron;* but in the general only the *muriate, phosphate, and lactate of ammonia remain in the ground. It is these alone, therefore, which enable the soil to exercise a direct influence on plants during the progress of their growth, and not a particle of them escapes being absorbed by the roots.*"

Now it is obvious from all we have quoted from Baron Liebig and Prof. Johnston that they each place the highest value upon those substances in manures, both solid and liquid, which contain the sources by which nitrogen is furnished to plants, and hence we were justified in assuming now, as we did in our December journal, that it was the ammoniacal gases that constitute the true measure of the value of manures. We might stop here, and feel that we were fully sustained in the proposition we laid down, despite the denial of our valued friend, Mr. Calvert; but as we have other authorities for what we said, for the benefit of our readers, we will quote some of them.

We shall now turn our attention to one of the most eminent agricultural chemists of our own country. We mean Prof. *Samuel L. Dana*, a gentleman who has given to the agricultural world, a book, though bearing the homely name of "*Muck Manual for Farmers*," contains more profound learning, more deep researches upon the value of manures, and more common sense, for the con-

*Urea consists of nitrogen, hydrogen, carbon and oxygen.

sideration of farmers than any other work of the same number of pages of any book extant. He says:—

"Estimating the nitrogen as ammonia, the yearly product of one cow is 156 lbs. of nitrogen, equal to 189 lbs. of pure ammonia, or equal to 677 lbs. of bi-carbonate of ammonia of the shops. A single cow will therefore give annually, fed on hay and potatoes, 31.025 lbs. of dung, containing

4800 lbs. of geine,
677 " of carbonate of ammonia,
71 " of bone-dust,
37 " of plaster,
37 " of chalk,
24 " of common salt,
15 " of sulphate of potash.

"It is perfectly evident from this view, that the main *agricultural value depends on the ammonia, or nitrogen*, and the geine. The lime, in its form of salts, goes but little way towards this value, yet valuable, so far as they exist. It is evident that the lime in the above salts of lime, the annual product of one cow, is sufficient to supply the grain and straw of a crop of 140 bushels of Rye."

"If these then are the elements of plants which are found in cow-dung, it is to the organic or the inorganic portion that the enriching power is due. The great value of dung as a manure, has been supposed to be due to its animal matter. The common idea of animal matter includes substances which contain much nitrogen, but is it to the nitrogen, or to salts, that the chief value of manure is due? To the *nitrogen, chiefest and first*, and that too, as it exists in the albuminous portion of dung. The nitrogen of the hay contributes very little to the value of manure. The hay furnishes the geine. That it is the *nitrogen* of dung only, the part not contained in the hay, which evolves ammonia, is evident; for if the nitrogen of the hay only, was the essential element of dung, which contains about one per cent. of nitrogen, could supply its place, 50 pounds would be equal to 100 lbs. of dung. It is well known that such effect is never produced by planting on hay."

"It is not to the nitrogen only in dung, to which can be referred the action of this manure. It depends on its other elements, salts and geine. The action of nitrogen is referred to its power of forming ammonia, and this then acts in two ways. *First*, upon geine, or the hay part; *secondly*, upon silicates. First, it is a powerful alkali. Now it has been shown that all alkaline earths convert insoluble into soluble geine. *Secondly*, it is a well established fact, that the production of nitre is not necessarily dependent on the presence of animal matter; under the influence of porous materials, aided by alkalies, or lime, the elements of air combine and form nitric acid and nitrates, when bases are present. This action is greatly assisted by ammonia, which acts by catalysis. The great use of the animal matter is to produce this alkali, or ammonia. If no alkaline base is present, it becomes the source of the formation of nitrate of ammonia. This salt being decomposed by the living plant, its nitric acid acts on the silicates, and saltpetre or nitrate of potash is produced. The agency of this, as a manure, has already been considered." * *

"The *nitrogen, then, in dung, is that organic element to which must be attributed its chief enriching quality*. The nitrogen is the basis, both of the production of ammonia, and of the formation of nitrates. Hence, *the quantity of nitrogen in manures will form a very good element for the estimation of their value. Manures will be found rich in proportion to their quantity of nitrogen, or their power of forming nitrates. This is the great and first cause of the enriching power* of dung." * * *Dana* again says:—

"The *nitrogenous principle* gives at once an energy to vegetation, enabling it to unfold early and largely those organs, the roots and leaves, by which the earth and air contribute their portion to the growth of plants.

"*Nitrogen* gives salts power to do more work in the same time. It is a labor-saving machine, enabling the farmer from the same ground, and with the same time and labor, to reach larger rewards." * * * Again *Dana*, says:—

"*The nitrogen present in the manure expresses its true value.* This position is substantiated by the experience of practical men. The experiments undertaken by order of the Saxon and Prussian authorities, to ascertain whether the contents of the sewers of the cities of Dresden and Berlin, could be applied to fertilizing the barren lands in their vicinity, may be offered to prove its correctness. These varied in every form, and continued for a long period, prove that if a soil without manure yields a crop of three for one sown, then the same land yields, dressed

With cow-dung, 7 for one sown.
" Horse dung, 10 " "
" Human manure, 14 " "

"Now the *nitrogen* in these has been shown, taking the minimum of nitrogen in the human at 1¼ per cent. is as 1: 1.50: 3: whilst the above numbers are to each other, as 1: 1.43: 2.

"Considering how varied is the composition of night-soil, and how much diluted by various mixtures, this agreement is as near as ought to have been expected, in experiments whose objects were totally different from that of ascertaining the quantity of nitrogen in each different manure." * * * *. Again, *Dana* says:—

"On the principles adopted for determining the value of manure, the salts in 100 lbs. of soot are equal to 1 ton of cow-dung. Its *nitrogen gives it a value compared with cow-dung, as 40 to 1.*"

Prof. Alonzo Gray, in his work entitled "*Elements of Scientific Agriculture, or the Application of Biology, Geology and Chemistry to Agriculture and Horticulture, intended as a text book for farmers and students in agriculture*"—a work that should be in every farmer and agricultural student's library—affords us the following apposite remarks upon this branch of our subject. Prof. *Gray*, says:—

"Animal bodies, such as flesh, skin, gristle, sinews and bones, form by decomposition most powerful manures. They produce much larger quantities of *ammonia* than fermenting dung heaps, and are much richer in salts, containing in fact all the substances which are necessary to support the vegetable organs."

Again, Prof. *Gray*, says:—

"The value of bones *depends upon their power of producing ammonia* and salts. For the former purpose, they are at least 8 or 10 times as valuable as cow-dung."

And again, Prof. *Gray*, says:—

"The quantity of *nitrogen* renders it [urine] a powerful manure, as it becomes the food of plants."

Mr. *Campbell Morfit*, a practical and analytic chemist of deservedly high reputation, in his ex-

cellent work on "manures, their composition, preparation," &c., affords us this paragraph:

"Nitrogenous matters are rare and more costly than other organic substances, *but at the same time they are of the first* importance in their application to agriculture. *Nitrogen, then, is the element most desirable in the manure*; or in other words the organic matters most advantageous in the production of manure are just those which give birth to their *decomposition*, to the greatest proportion of soluble or volatile nitrogenous bodies."

With the preceding authorities, we might rest our case, confident that we had sustained the position we advanced, that *ammoniacal* constituents constitute the most important elements of manure, which Mr. Calvert so stoutly denied the correctness of. But we here quote a portion of our article of December, which forms a part of the ground-work of his objection:—

"What is it that gives so much greater value to *Peruvian* guano, over those kinds whose greater recommendation is, that they have a large portion of phosphates in their composition? Why, simply, because the former is rich in the elements of ammonia, and the latter by exposure to rains, heat and moisture have been deprived, in the process of decomposition, of their ammonia, and thereby rendered to that degree less valuable."

Think ye, readers, that the intelligent agriculturists of our country, would pay three or four times the price for *ammoniacal* guano that phosphatic guano sells for, if the former was not much more intrinsically valuable than the latter, and that their experience justified them in so doing?—Hence then, it is the existence of ammoniacal compounds in manures, that forms the measure of their relative values.

Before we close this part of our reply, we will extract a few brief paragraphs from the admirable work of the late *John P. Norton*, entiled, "*Elements of Scientific Agriculture, or the connection between Science and the art of practical farming*"—a work, whose enlightened scientific views, clear, practical good sense, and unostentatious learning, rank it among the first of the age.

In reading it, the heart of the agriculturist should be filled with emotions of grief, that its author should have been cut down by death in the fulness of his youth, and the dawning of his usefulness.—For ourself, we look upon his early departure from among the living, as a national calamity.

In speaking of the manure of animals, he says:

"The manure of all these animals is far richer than the food given them, *because it contains much more nitrogen*. This is for the reason that a large part of the carbon and oxygen of the food are consumed in the lungs and blood generally, for the purpose of keeping up the heat of the body.—They are given off from the lungs, and also by perspiration and evaporation through the pores of the skin, in the forms of carbonic acid and water."

"From animals fed upon rich food, the manure is much more powerful than when it is poor. In England, for instance, where they fatten cattle largely on *oil-cake*, it is calculated that the increased value of the manure, repays all the outlay."

Now we would ask, why is it that the manure of cattle fed on oil-cake, is more valuable than that made from cattle not so richly fed? Why, simply, because it is richer in nitrogenous compounds. According to the analysis of Professor *Way* of the oil-cake from different countries, he found that the amount of nitrogen they contained, ranged from 4.65 to 5.14. Hence, then, it is evident that it is ammonia that gave it superior value over other and less nitrogenous manure.

Again, Professor *Norton* says:

"Manures containing *nitrogen* in large quantity, are so exceedingly valuable, because this gas is required to form gluten, and bodies of that class, in the plant; this is particularly in the seed, and sometimes also in the fruit. Plants can easily obtain an abundance of carbon, oxygen and hydrogen, from the air, the soil, and manures. *Not so with nitrogen.* They *cannot get it from the air*: there is little of it in most soils, and hence manures which contain much of it, produce such marked effect."

And again he says:

"In all places where manure is protected from the sun, and from much washing by rain, its value is greatly increased."

"Horse manure, particularly, should not be left exposed at all: *it begins to heat and to lose nitrogen*, almost immediately, as may be perceived by the smell. It should be mixed with other manures, or covered by some absorbent earth, as soon as possible. Almost every one who enters a stable in the morning, where there are many horses, must perceive the strong smell of ammonia that fills the place."

And still again he says:

"The flesh of fish contains large quantities of nitrogen, and acts with much energy in hastening the growth of plants." * * *

"The *nitrate of soda* is composed of nitric acid and soda. This nitric acid contains much *nitrogen*, and is therefore very active as a manure."

One more extract, and we will have done with this branch of the subject. In Mr. *D. J. Browne's* work, entitled, "*Field Book of Manures*," after giving a table of the analyses of nine different kinds of *Guano*, he makes the following remarks as to the value of their chief constituents:

"Professor WAY, of the Royal Agricultural Society of England, has gone fully into this question, and has deduced, from a variety of considerations, that the value of ammonia is very nearly *sixpence* per pound, and that of phosphate of lime, about *three farthings* per pound. Suppose, then, we wish to estimate the value of a ton (2,000 lbs.) of Peruvian Guano, of the average composition; we calculate from the per centage the number of pounds of ammonia and phosphates present in it, and calculating 12½ cents for each of the former, and 1½ cents for the latter, we have the value of the ton. Thus:

17 per cent. of ammonia is equal to 340 lbs. in a ton of 2,000 lbs., at 12½ cts.,	$42 50
23.48 per cent. of phosphates is equal to 470 lbs. in a ton, at 1½ cents,	7.05
Value of a ton of Peruvian Guano,	$49 55

Exactly in the same manner we are enabled to find the following value of a ton of Saldanha Bay Guano:

1.62 per cent of ammonia is equal to 32.4 lbs. in a ton, at 12½ cents,	$4 05
56.4 per cent. of phosphates, is equal to 1,128 lbs. in a ton, at 1½ cents,	16 92
	$20 97

"Strictly speaking, something should be allowed

for the alkaline salts present; but the exact value cannot be estimated without difficulty. It might average from $4 to $5 per ton, which should be added to the above; thus making Peruvian Guano worth about $54 a ton."

Let us view the subject as we may, it is obvious that we were right when we affirmed, that nitrogenous compounds, or ammonia, were the true measure of the value of manures.

Since we wrote the preceding, the number of the American Journal of Pharmacy, for March, 1858, has been placed in our hands, from which we extract what follows, being the results of a series of decisive experiments, very recently made by *M. Boussingault*. We copy them with the more pleasure, as they conclusively establish the justness of the position we laid down, as to the great importance and value of nitrogenous manures.

["Researches upon the influence which assimilable nitrogen in manures exerts upon the production of vegetable matter; and upon the quantity of nitrates contained in the soil and in water of various kinds. By *M. Boussingault*.]

"Several years ago Boussingault demonstrated in the clearest way, that plants are incapable of assimilating the free nitrogen of the atmosphere. *Two* years ago, in a paper communicated to the French Academy of Sciences, he showed that *nitrates eminently favor vegetation*. He now shows by decisive experiments:

(1.) That the amount even of ternary vegetable matter, produced by a plant *depends absolutely upon the supply of assimilable nitrogen* (ammonia and nitrates.) A plant such as a sunflower, with a rather large seed may grow in a soil of recently calcined brick, watered with pure water, as far as even to complete itself by a blossom; but it will only have trebled or quadrupled the amount of vegetable matter it had to begin with in the seed. In the experiments, the seeds weighing 0.107 grammes, in three months of vegetation formed plants, which when dried, weighed only 0.392 grammes: a little more than trebling their weight. The carbon they had acquired from the decomposition of carbonic acid of the air was only 0.114 grammes; the nitrogen they had assimilated from the air in three months was only 0.0025 grammes.

(2.) Phosphate of lime, alkaline salts and earthy matters indispensable to the constitution of plants exerts no appreciable action upon vegetation, except when accompanied by matters capable of furnishing assimilable nitrogen. The plants of the same kind, grown under the same conditions as above, but with perfectly sterile soil adequately supplied with phosphate of lime, alkali in the form of bicarbonate, of potash and silex from the ashes of grasses, resulted in only 0.498 grammes of dry vegetable matter, from seeds weighing 0.107 grammes; and had acquired only 0.027 grammes of nitrogen beyond what was in the seeds.

(3.) But nitrate of potash furnishing assimilable nitrogen associated with phosphate of lime and silicate of potash, forms a complete manure, and suffices for the full development of vegetation. Parallel experiments with *nitrates* in place of bicarbonate of potash, resulted in the vigorous growth of the sunflower plants, and the formation of 21.248 grammes of organic matter, from seeds weighing as before only 0.117. This 21.111 grammes of new vegetable matter, produced in three months of vegetation, contained 8.444 of carbon, derived from the carbonic acid of the air, and 0.1666 grammes of nitrogen. The 1.4 grammes of nitrate of potash supplied to the soil contained 0.1969 grammes of nitrogen, leaving a balance of 0.0303, nearly all of which was found unappropriated in the soil."

Finally Boussingault made a neat series of comparative experiments, introducing into calcined sand the same amount of phosphate of lime and carbonate of potash, but different proportions of nitrate of soda, or in other words assimilable nitrogen, and watering with water free from ammonia, but containing a quarter of its volume of carbonic acid gas. The soil divided among four pots, (H. *argophyllus* was the species used in all the experiments:) the pot

No. 1 received of nitrate of soda,	0.00	grams.
" 2 " " " "	0.02	"
" 3 " " " "	0.04	"
" 4 " " " "	0.16	"

The results of fifty days vegetation are given in the rate of growth, size and number of the leaves, weight of the product, &c.

No. 1 made of new vegetable matter,	0.397	grams.
No. 2 " " " " "	0.720	"
No. 3 " " " " "	1.130	"
No. 4 " " " " "	3.280	"

In No. 2 so little as three millegrammes of assimilable nitrogen introduced into the soil enabled the plant to double the amount of organic matter. The proportion of the weight of the seeds to that of the plant formed was in

No. 1, as 1: 4.6 gr.
" 2, " 1: 7.6 "
" 3, " 1: 11.3 "
" 4, " 1: 30.8 "

In no case did the nitrogen acquired by the plant exceed that of the nitrate added to the soil.

In the experiments where no nitrate was added to the soil, the two or three millegrammes of nitrogen acquired by the plants during the three months of vegetation, came in all probability from ammoniacal vapors and nitrates existing or formed in atmosphere."

After the results of these *recent* experiments, we hope that our friend Calvert, will begin to doubt the propriety of his *denial*, so chivalrously thrown out; and in that spirit of candor, which so peculiarly belongs to him, admit that there were truth and propriety in our proposition, that ammoniacal salts forms the true measure of the value of manures.

We had intended to reply to the *whole* of Mr. *Calvert's* communication, in the present number, but as we deem that what we have advanced covers the main ground of the controversy, we here leave the matter, sincerely praying that the life of our excellent friend may be spared to see many of those theories which agitate the farming community practically tested, in the institution at the head of which he has been so properly placed, and whose selection to the distinguished post has given such entire confidence in its success and its future usefulness.

From T. B. Peterson & Bro. of Philadelphia, we have received a copy of a new work, entitled, "Sartaroe, a Tale of Norway," by Jas. A. Maitland. We have not had time to read the work, and consequently can express no opinion of its merits.

WORK FOR THE MONTH.

APRIL.

The time has arrived when every agriculturist should go to work with a will, in order that his spring crops may be got in seasonably. To delay—to procrastinate now—may hazard the success of his crops. Dependent as agriculturists are upon numerous contingencies, it becomes their duty to watch with unceasing vigilance, and appropriate properly every moment at their command, in forwarding the operations of their farms. They should make it a point of duty, to commence everything at the right time, and prosecute whatever they undertake to completion—to be particular in preparing the ground for their several crops thoroughly and well—not to pitch their crops beyond their ability of fertilization and culture.

With these few introductory remarks, we shall proceed to call attention to such matters as we deem essential to be done on the farm during the month—the earlier the better.

Hauling out Manure.

In many of the States in which our journal circulates, this work has already been done. Nay, in many of them the corn has been planted; while in others it is already up. But still there is a very broad district of country, where the hauling out of manure has not been begun. To our friends, then, who have still this labor to perform, we desire to address ourselves.

Now, every one who encounters the labor of accumulating manures, should make it a matter of duty, as it obviously is his interest, to preserve its most active fertilizing principles from waste—we mean those of a volatile nature. That some waste will occur, no matter how careful one may be, when the manure in the yards come to be broken up, to be hauled out, we readily admit; but yet, much that is usually lost, may be saved, by attention in the use of the means. If at the time of breaking up the manure, 1 bushel of plaster, 10 bushels of finely pulverized charcoal, or a dilute solution of sulphuric acid, or of copperas, were sprinkled over every twenty two-horse cart loads of the manure, much loss would be prevented.

Oats.

Those who have not got their oats in, should do so as soon as possible, as the early sown oats, other things being equal, always produce the most grain.

Barley.

Seed your barley, as speedily as you can prepare the ground for it.

Soil, &c.—Barley delights most in a fertile loam. Soil that would, in favorable seasons, yield 20 bushels of wheat, or 40 bushels of corn, would produce from 30 to 40 bushels of barley per acre. It requires land naturally rich, or made so by manure.

Potatoes.

If not already planted, get in your early potatoes, if possible, by the 10th of the month. Late potatoes should be planted, at farthest, by the 15th of May.

Jerusalem Artichokes.

If you have a lot of an acre or two that you can *permanently spare*, plant it in this tuber, for winter feed for your stock.

Root Culture.

This, unfortunately, is among the neglected things in our system of agriculture, but it should not be so; for if properly attended to, it is capable of conducing much to the profits of the husbandman. Its pursuit in Great Britain has added millions, and still continues to add millions to the value of her agricultural productions, and has added also millions to the value of the landed estates. And it is but a fair deduction, that if our people could only be made to adopt the system, its effects upon the interests of our country, would be equally beneficial in the results.

Kinds of Roots.—The several kinds of roots that we have alluded to, are the following, viz: Parsnips, Carrots, Mangel Wurtzel, Sugar Beet, the Ruta Baga and other turnips.

The time of drilling *Parsnips, Carrots, Mangel Wurtzel* and *Sugar Beet*, should be as soon as the frost is out of the ground, up to the beginning of May.

The *Ruta Bàga* turnip, from the 20th to the 25th of June.

The other kinds of turnips, from the 25th July to the 10th of August.

In making these prescriptions as to the time of drilling in the several kinds of roots, we have in view large productions, for stock feeding.

We have drilled in the Sugar Beet as late as the 1st day of *June*, and had a good crop; but except when controlled by circumstances, we consider that too late.

An acre of either of the before named roots, if properly manured, the ground well prepared by ploughing, harrowing and rolling, and cleanly tended, will yield from 500 to 600 bushels per acre. Of Mangel Wurtzel and Sugar Beet, from 1,000 to 1,300 bushels have been grown upon an acre; but as we do not wish to encourage large anticipations, we have mentioned 500 to 600 bushels as the quantities to be calculated upon—results, which, from our own experience, we know can be realized.

Of Manures for Roots.—All roots are the better for having the manure broken down by decomposition. Composts may be formed of equal portions of rotten stable or barn-yard manure, and road scrapings, marsh mud, the earth from head lands, or woods' mould. The composts should be prepared two or three weeks before being used. When about to be hauled out, it should have added to every 20 two-horse cart loads of it, 10 bushels of ashes, 2 bushels of salt and one bushel of plaster.

200 pounds of Peruvian Guano, mixed with 1 bushel of plaster, well mixed together, will manure an acre of roots.

4 bushels of bones dissolved in dilute sulphuric acid, mixed with 10 bushels of ashes, will also manure an acre of roots.

10 bushels of bone-dust, 10 bushels of ashes, 2 bushels of salt and 1 bushel of plaster, formed into pie, and kept two weeks therein before being used, will also manure an acre of roots.

Quantity of Manure per acre.—With the exception of the compost in which guano is named, the quantity of which is already prescribed, from 15 to 20 two-horse cart loads of manure will be about the right quantity.

Soil and preparation.—All roots delight most in a deep, rich, sandy mould: the Mangel Wurtzel, however, will prosper admirably in a clayey mould.

The manure being applied, plough the ground deep, say to the depth of 8 or 10 inches. The ploughing should be done with great exactness—great truthfulness—no balks to be left untouched—the furrow slices to be turned flat; then harrow, until every clod is broken fine. This done, roll the land with a heavy roller.

Mangel Wurtzel and Sugar Beet. As the cultivation of these beets are the same, we shall treat them under the same general head.

Preparation of the seed.—Soak the seed in milk-warm water for 24 hours; drain the water off through a cullender or seive; then add to the seed, when drained, twice their bulk of *soot and ashes*, or *ashes and plaster*, which must be well mixed with them, to separate the seed, and render them easy of being drilled.

Quantity of seed—3 to 4 lbs. of either kind of beets is about the right quantity to be drilled in on an acre.

Width of furrows.—From 27 to 30 inches apart, is about the most eligible distance for the width of the drills. This gives space enough for the working of a one-horse cultivator, and saves much hoe and hand work.

Distance of the plants.—The plants, when thinned out, should stand 12 inches asunder in the rows.

Modes of Drilling in the Seed.—The drilling machine is the best method. We have drilled by hand, and from the mouth of a quart bottle.

Culture.—When the plants first come up, dust them with a mixture of equal parts of *ashes* and *plaster*, or *plaster* and *soot*; a bushel of each will answer for an acre.

When the plants are 3 or 4 inches high, they should be thinned out so as to stand 12 inches apart in the rows, selecting the most healthy and vigorous plants to remain. Where there are blank places, draw plants from where they are too thick, and fill them up. This dibbling in of plants to fill up the vacant space, must be done during or just after a rain.

After you have completed the thinning out of the plants, go carefully over each row, and wherever a plant has more crowns than one—and there will sometimes be from 2 to 4—pinch off all but one.—At this time, work around the plants with hoe and hand, and relieve them from all weeds and grass.

In 10 days from the above operations, run the cultivator through the middle of the rows, to clean off the weeds and grass, and let the atmosphere and dews into the earth, and work again around the plants with hoe and hand. In two weeks thereafter, give your beets another such working, and, most generally, the labor of tillage will be found to have been completed.

The great object of the culture of these roots, is to keep them clean, and the soil open to the influences of sun, air, dew and rain.

Depth of drills.—The drills should be one inch deep. The drilling machine is to be adjusted to regulate the depth of the drill.

Direction of the drills.—These should be north and south.

Use of the Leaves.—About the middle of August, just at the period when, from the poverty of your pastures, your cows will need succulent food, you may obtain a supply by pulling the leaves from your Mangel Wurtzel and Sugar Beets, without materially affecting the growth of the roots; provided you do not pull or disturb the leaves about the crown. The lower leaves can be pulled without injury. In pulling the leaves, the party must press his thumb nail through the stalk of the leaf, near its junction with the body of the root, being careful not to lacerate or tear the skin from the stem of the beet. In this way, we do know that three or four tons of leaves may be gathered in the course of a season, from an acre of beets. They are highly relished by the stock, are particularly good for milch cows, whose milk-secreting powers they greatly encourage.

PARSNIPS.

This root is of much intrinsic value, whether we consider its fine edible qualities as a table vegetable, or regard it as cattle food. *Hogs* eat parsnips with great avidity, and fatten on them readily. All the pork of the Island of Guernsey are fattened with parsnips, which pork are said to be of sweet and delicious flavor. *Milch-cows* fed upon parsnips cut fine, mixed with chopt straw or hay, and a small quantity of meal or bran, afford large flows of delicious milk, and rich cream, while the butter made from the latter is of the finest nutty flavor. Indeed, all domestic animals are fond of parsnips, and thrive upon them. As an *alterative* food for horses, nothing is more grateful to that animal, than an occasional feed of parsnips or carrots. A peck of either root cut up fine, and mixed with a peck of cut hay or straw, and half a gallon of chopt oats or rye, with a handful of salt, make a most invigorating meal for a horse; a few such feeds a week, occasionally, opens his hide, softens his hair, and keeps his system in a healthful condition.

Time of planting.—This must depend upon the location, and object in view. If wanted for table use, it will be time enough to drill in parsnips, from the 1st to the 10th of May; if wanted for cattle food, the sooner they are got in after the frost is out of the ground, the better, as the earlier they are in, the greater will the product be.

Soil.—The soil in which the parsnip most delights, is a deep and fertile sandy loam. If the soil be not naturally rich, it must be made so by abundant supplies of well rotted nutritive manures.

Kinds and quantities of Manures.—A compost formed of 10 two-horse carts of well rotted stable or barn-yard manure, 10 of marsh mud or wood's mould, and 10 bushels of ashes, would yield a good crop on an acre; so would 300 lbs. of guano, 1 bushel of plaster, 5 bushels of bone-dust, 10 bushels of ashes and 1 bushel of salt.

Preparation of the Soil.—The same as recommended for beets.

Quantity of seed per acre.—From 2 to 3 lbs. of seed, according to its age, and the nicety with which it may be drilled, is the right quantity of seed per acre.

Age of the seed.—If parsnip seed is more than a year old, it is shy of coming up, unless they have been kept with care.

Preparation of the Seed.—Before being drilled in, parsnip seed should be soaked in warm water for 24 hours, drained, and mixed with equal quantities of plaster and ashes, or soot and plaster, so as to separate the seed, and render them the easier to sow.—To ensure thin distribution, mix two parts dry sand and one part seed together.

Modes of seeding.—The same as for Mangel Wurtzel and Sugar Beet—the drills one inch deep.

Distance of rows.— The distance of the rows should be from 18 to 20 inches apart.

Culture.—When the plants are up and 3 inches high, work between the rows with the hoe; among the plants in the row, weed out the grass and weeds with the hand, stirring the earth, when needed, with the hoe; at this working, thin out the plants, so as to stand from 4 to 6 inches apart. After which, give them a pretty free dressing of equal parts of ashes and plaster, or soot mixed together—say a bushel to the acre. This must be applied in the morning early, when the dew is on the leaves. At intervals of two weeks apart, give the plants a second and a third hoeing, and you will have completed their culture, unless, from the nature of the weather, a fourth working may become necessary. As we remarked in the culture of beets, the great object is, to keep the ground clean of weeds and grass, and open to atmospheric influences.

Carrots.

The kind of land best adapted to the culture of the carrot, is the same as that for parsnips. Of manures, they require the same kinds and quantities, with the exception, that the mixture for dusting the plants, should have salt added to that prescribed for the parsnip.

Preparation of the Soil.—The same as for parsnips.

Distance of Rows.—The same as for parsnips.

Mode of Drilling in.—The same as for parsnips.

Quantity of Seed.—Two pounds of seed is sufficient for an acre.

Culture.—The same as for parsnips.

Distance of Plants in the row.—The plants should be thinned out, so as to stand 4 inches apart in the drills, for the *Altringham* Carrot; for the *White Belgium*, 6 inches.

Ruta-Baga Turnip.

It will not be necessary to plant this turnip until June; when the time arrives we will tell you how. We only mention it now, to give you time to prepare for its culture.

Corn Planting.

As the time for corn-planting depends upon location, in a country of such wide range as ours, we cannot point to any particular day as *the time*, but can say, plant when the frost is thoroughly out of the ground; but be sure to have your ground manured, ploughed, and ready for planting, as soon as possible this month, in order that there may be no delay when the time arrives when the seed may be committed to the ground in safety.

Extent of Crop.—In this, be governed by your ability to manure and cultivate well.

Preparation of the Ground.—The ground should be ploughed deep, say 8 or 10 inches, if the soil will admit of that depth. If possible, it should also be subsoiled. It should be thoroughly harrowed and rolled.

Distance of rows.—This depends upon circumstances. Some make their rows 3 feet apart, others 4 feet, some 4 by 3, while there are those who extend the distance to 5 and even 6 feet.

Number of stalks in a hill.—In strong lands, highly manured, three stalks may be safely left to stand; in medium land, well manured, two stalks are as many as should be left; but in poor land, indifferently manured, or not manured at all, one stalk is enough to each hill.

Number of Grains in each hill.—From 6 to 8 grains should be dropped in each hill, to allow for contingent losses.

Quantity of seed per acre.—From 1 to 1½ pecks per acre is enough.

Preparation of the Seed.—We give the following composition of soaks, leaving the selection to the judgment of the corn grower:

1. Put a pint of common tar or gas tar, into a barrel or tub; pour thereon 5 gallons of boiling water; stir until the tar is completely dissolved and incorporated with the water; then put a bushel of corn into the soak, let it remain for 12 hours. Should the corn not be covered, add hot water until it is. When the corn has been long enough in the soak, drain off the liquid into another barrel or vessel; then add ashes and plaster enough to entirely coat the grains of corn; stir until this is effected—when your seed corn will be fit to be planted.

2. Dissolve 1 lb. of saltpetre in 5 gallons of boiling water; soak a bushel of corn therein 12 hours; then drain off the liquid into another vessel; then mix ashes and plaster, as in No. 1.

3. Dissolve two pounds of copperas in 10 gallons of boiling water; then drain off the copperas water, stir in among the corn half a gallon of soft soap; when the grains are covered with the soap, add plaster and ashes, as when well stirred into the corn, will coat and separate the grains.

4. Dissolve 2 lbs. of glauber salts in 10 gallons of boiling water, and treat the grains of corn to a coating of ashes and plaster, as before.

The above soaks will serve to be used again and again.

Quantity of Manure per acre.—1. Twenty two-horse cart loads of stable and barn-yard manure, mixed with one bushel of plaster, will answer to be ploughed in.

2. 400 lbs. Peruvian Guano, 8 bushels of bone earth, and 1 bushel of plaster, mixed together and ploughed in, will answer.

200 lbs. Peruvian Guano, 200 lbs. Phosphatic Guano, 1 bushel of plaster, and 10 bushels of ashes—to be mixed together and ploughed in, will answer.

4. Ten loads of marsh or river mud, 10 bushels of bone earth, 10 bushels of ashes, 100 lbs. of Peruvian Guano, and 1 bushel of plaster, formed into pie, well mixed together, will answer.

5. 400 Herrings, alewives or other fish, will answer for an acre in corn.

Manuring in the hill.—At the time of planting, it will be very advantageous to have a mixture of plaster and ashes, so as to give each hill a handful of the mixture. This may be put in the hill at the time of planting, or on the hill afterwards, at the time of the first working—the earlier the better.

After Culture.—Cultivate the corn with the cultivator or corn-harrow. Begin to cultivate as soon as the corn is a few inches high. Cultivate it every few weeks, until you lay the crop by.

Let it be your object—and carry it faithfully out—to keep the soil open, and the plants clean of weeds and grass, and you cannot fail—*the season being favorable*—to make a good crop, provided you shall follow our advice relative to manuring, ploughing, harrowing and cultivation.

Fences.

Examine and repair these, wherever necessary.

Brambles, Briars, Bushes, &c.

Make war upon all such pests. Let not one remain to show his ugly head along your fences, or in your fields.

Hemp and Flax.

It is time to set these crops.

Tobacco Plants.

Look to these with care.

Working Animals.

Feed these well, groom them night and morning, water them thrice a day, and give them cleanly beds.

Milch Cows and other Stock.

Continue the treatment to these animals that we advised last month.

Selection of Stallions.

Be sure to select a good stallion for your brood mares. Horses bring, and will continue to bring good prices, and you can afford to pay for the services of a prime animal.

Poultry.

Be attentive to the food and comfort of your poultry of all kinds.

Out-houses of all Kinds,

Should be cleaned and white-washed. While at this work, give your garden and lane fences a good white-washing.

Early Turnips.

Turnips when raised early for market, bring excellent prices. If you live near a good market, put in an acre of turnips. It will pay you well.

Deep Ploughing.

All lands that are not naturally wet, should be ploughed deep. For soils naturally wet, draining is the cure.

WORK IN THE GARDEN.

APRIL.

April is the month when every one who desires to have a good garden, should put forth his every energy to secure so desirable an object—an object that secures so many necessaries, so many comforts, and so many luxuries, to the farmer's family. *Delay* now, will mar all your fondest wishes; but if you garner up your strength, and push forward with a will, determined to attain the ends you have in view, you cannot fail to realize all you desire. In order that we may assist our readers, we will endeavor to point out what ought to be done this month, to render the farmer's garden what it ought to be—a model for his neighbor.

Cauliflowers.—If the plants in your hot-bed, be stout, strong and healthy, and they ought to be, have a bed prepared and set them out the first season that occurs. The bed in which they are to be grown for flowering, should be a deep rich clay loam, moist, though *not wet*. Manure it heavily with rich well rotted stable manure, dig the manure in, a full spade in depth, rake it fine as the spading proceeds, then broadcast over it a mixture of equal parts of ashes, lime and salt; when it will be fit for the reception of the plants. Be careful in taking up the plants, so that a ball of earth may adhere to the roots; set the plants down to their leaves, in rows running north and south, three feet wide, the plants the same distance apart in the rows; bring the earth around the plants so as to form a kind of basin, about 2 inches in depth, to receive the water. Water the plants when you set them out, and give them water every second day thereafter, unless it rains, until they take root and begin to grow vigorously. Whenever the weather is dry they must be watered.

Sowing Cauliflower Seed.—Select a rich loamy spot on a border, facing the south, manure, dig and rake it fine, then sow Cauliflower seed to grow plants for a fall crop.

Transplanting Cabbage Plants.—If you have any cabbage plants of a size to set out, you should transplant them the first season that occurs.

Sowing Cabbage Seed.—Prepare a bed on your border, and sow seed of various sorts.

Brocoli.—Plants of these may be set out on open ground, and you should sow seed for future supplies of plants.

Siberian Kale.—Prepare a bed by liberal manuring, spading and raking fine, and sow seeds to grow sprouts for early summer use.

Peas.—Drill in a few rows of Peas in the beginning of this month, and every week through this and the next month, drill in a few more rows, in order that your supply of this delicious vegetable may be continuous.

Beans.—Plant a few rows of Beans in the first week in this month, and do so weekly throughout the month to continue your supply.

Lettuce.—If you have lettuce plants set them out—and sow more seed every two weeks.

Radish—Sow radish seed now and every two weeks during this and next month.

Spinach.—Drill in a few rows of Spinach at the beginning and middle of this month.

Small Sallading—Of all kinds should be sown the first week in this month, and at intervals of 7 or 10 days during its continuance.

Carrots and Parsnips.—Drill in a full crop during the first of this month. For the mode see directions for the Farm.

Celery.—Set out your plants, and sow seed for a general crop.

Asparagus Beds.—If your asparagus bed has not been already dressed, dress it the first week in this month, with well rotted manure, which should be carefully forked in; that done, strew salt over the bed.

Beets.—Drill in a bed of Blood-beets.

Onions.—Prepare a bed and drill in Onion seed, early this month, the earlier the better. Set out your seed onions if not already done.

Early Turnips.—Prepare a bed and sow early turnip seed.

Herbs.—All kinds of herbs may now be set out, or the seed sown.

Salsify or Vegetable Oyster.—Prepare a bed and drill in some rows of the seed of this excellent root.

Skirret.—Prepare a bed and drill in a few rows of Skerrit seed.

Artichokes.—Dress your Artichoke bed, and sow more seed.

Red Peppers.—Prepare a spot on a border facing the south, and sow Red Pepper seed of various sorts. Sow the seed at the beginning of the month.

Tomatoes—Egg Plants.—Sow seeds of each of these early this month, the earlier the better. If you have plants set them out.

Early Potatoes.—Early this month plant Potatoes, the earlier the better.

Planting out for Seed.—If not already done plant out Cabbages, Beets, Parsnips, Carrots, Turnips, &c. for seed.

Horse Radish.—If you have not already a bed of this excellent and healthful condimental root in your garden, plant out one in the beginning of the month.

Rhubarb or Pie Plant.—Set out a dozen or two of these plants.

Pruning.—Prune your fruit trees if they need it, but prune only such limbs as may be dead, or which interlap eacn other. Make all the wounds smooth, and paint them over with cement.

Planting out Fruit Trees—Fruit trees of all kinds may be planted out this month, if done very early.

Okra.—Drill in a few rows of okra for soup.

Raspberries.—Trim and tie up your Raspberries early this month, the earlier the better.

Shrubbery of all Kinds—Should be planted out in the beginning of this month.

Seed Beds.—If dry, should be moderately watered.

In conclusion, let us say, that if your garden has not flowering shrubs, and flowers, you should not consider its appointments complete until you supply them.

FLORICULTURE—April, 1858.

Prepared for the American Farmer, by W. D. Brackenridge, Florist and Pomologist, Govanstown, Balt. Co., Md.

The display of flowers in the greenhouse and conservatory, ought to be one of great beauty during the whole of this month. Remove all hardy kinds to cold frames, to give space to more tender free-growing sorts in bloom; Roses, Azaleas, Calceolarias and Cinerarias, will form the principal objects of attraction at this season. Syringe freely, to keep the leaves clean, and maintain a moist atmosphere. Fumigate frequently with tobacco, to kill the insects; at least twice every week pick off all dead leaves and flowers, and admit air freely during mild weather.

Azaleas—as they start into growth, should be repotted, and all straggling shoots cut in; or tied down, so as to form bushy plants.

Camellias.—As the wood of these begins to ripen, admit air more freely, and attend to instructions given last month.

Pelargoniums—will now be in bloom; give air and water freely, to which add, one or two waterings every week, of weak liquid manure; syringe very lightly, so as not to injure the flowers.

Chrysanthemums—ought now to have plenty of light and air, and where young plants are wanted, they may be multiplied by suckers, and cuttings taken from the tips of the shoots.

Calceolarias—in bloom, will require an airy part of the house, where they will continue long in bloom, and ripen their seeds, and succession plants should be shifted into larger pots; drain the pots well, and use a rich sandy soil.

Tender Annuals—sown last month and in February, ought to be pricked out into pots, boxes, or a cold frame, so as to harden them, before planting out in the open border.

Fuchsias—whether from cuttings raised in February, or old plants of last year, where handsome specimens are wanted, will require constant attention, by shifting them frequently into larger pots, and pinching back all irregular or straggling shoots; we like the pyramidical mode of training the best, but standards, as we stated on a former occasion, are objects of great beauty, if care is taken to form a symmetrical head.

Gloxinias and *Achimenes*—started last month, if growing freely, will require to be shifted into larger pots.

Ericas and *Epacris*—should be moved out into cold frames, in the early part of the month, plunging the pots at least one-half of their whole depth in fine ashes or sand; give all air possible during the day, in mild weather, and towards the end of the month, give also air at night; avoid exposing them to heavy rains; white-wash the glass inside, so as to afford a partial shade. During the hot summer months, the frame should be elevated on bracks placed at the corners, so as to admit a free circulation of air to pass underneath it.

Verbenas, Petunias, Salvias, and Eupatoriums, with other soft wooded plants, raised in the house for bedding out, should be removed to cold frames, to harden off.

Monthly Carnations—coming into bloom, will require to be freely watered; tie up to neat stakes, and keep the green fly under subjection.

Dahlias—placed in heat last month, ought now to be so far advanced, that cuttings may be taken off; the size of the cuttings when in a proper condition to be removed, vary according to kinds, from 3 to 6 inches in length, and should be cut off close to the crown of the old root, the base of the cutting to be cut back close to a joint; put a single one in a 2 inch pot, in a fine rich sandy soil, pressing the soil gently around the cutting to keep it steadfast, then place these in hot-bed at a temperature from 60 to 75°, watering slightly and shading from the sun, where they will root in ten days to a fortnight.

Shift and bring forward in a thrifty condition, all plants intended to adorn the greenhouse and conservatory during the summer months; these if neglected now, will form but meager objects of beauty when hot weather sets in.

Flower Garden.—April, of all months in the year, is the one in which the greatest amount of work presents itself, that is, when everything is attended to as it ought to be.

Ground for bedding out plants, should be enriched with well rotted manure, thoroughly incorporated with the soil in digging; choose dry weather for this work.

Flower Beds and Rose Borders ought also to be dug.

Lawns should be top-dressed with a rich compost of ashes and earth, or Super-phosphate of Lime, and if the grass is thin, sow a mixture of blue grass and white clover, and finish by raking and rolling the whole well.

Fill up gaps in the box edging; pare the grass edgings. Fresh gravel your walks, if necessary, passing the roller over them after a good heavy rain.

Roses—should be pruned before the buds start; cut well back, so as to cause them to throw out strong young wood.

Hyacinth and *Tulip Beds.*—Uncover these, and stir up the surface with a hoe.

Carnations and *Pinks*—wintered in cold frames, should now be planted out in beds.

Herbaceous Plants—may now be divided and planted.

Gladiolus Gandivensis, and its kindred kinds—ought now to be planted out in beds, or flower borders.

Sow seeds of Clarkias, Escholtzias, Larkspurs and Sweet Peas, in the open ground.

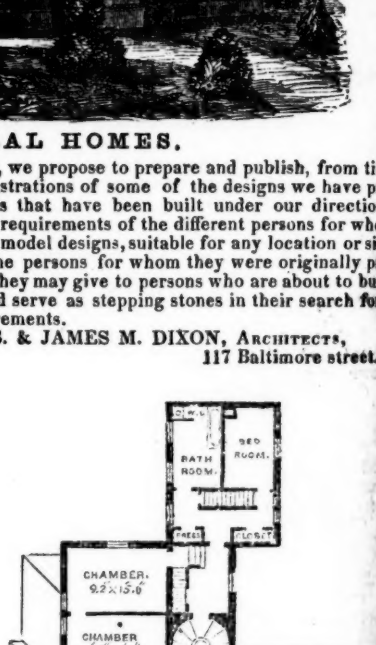
HINTS ON RURAL HOMES.

To aid in cultivating a taste for rural architecture, we propose to prepare and publish, from time to time, as our professional engagements will permit, illustrations of some of the designs we have prepared during the last few years, for country residences that have been built under our directions. These designs have been prepared to meet the various requirements of the different persons for whom the houses were to be built. We do not offer them as model designs, suitable for any location or site, or exactly adapted to the wants of any one, except the persons for whom they were originally prepared, and for the site they were to occupy; but that they may give to persons who are about to build in the country, or rural suburbs, some useful hints, and serve as stepping stones in their search for a design that will meet their particular wants and requirements.

THOS. & JAMES M. DIXON, ARCHITECTS,
117 Baltimore street.

Baltimore, February, 1858.

PLAN OF 1ST FLOOR.



PLAN OF 2ND FLOOR

[SEE NEXT PAGE.]

EXPLANATION OF DRAWINGS.

The first design we offer is for a country residence now in course of erection for the Rev. Alexander Macklin, D. D., on a very pleasant site, on the Harford Road, two miles from the city of Baltimore.

The general arrangement of this plan includes so much that is required by many persons in the country or rural suburbs, that it may be found worthy of the attention of those desiring to build a convenient and comfortable house, of moderate size and cost.

The accompanying plans illustrate so clearly the arrangement, and the accommodation afforded, as to require but very little description or explanation.

The parlor, library and dining room are entered from the front hall; the principal staircase is in this front hall. The kitchen, pantry, and servants' staircase, are connected with the dining room and front hall, by a back hall and passage; there is a side door entering to this back hall; there is a store room entered from the kitchen, and a china closet fitted up in the back hall. The second story plan will be found to contain four chambers, two smaller sized bed rooms, and bath room and water closet, and to be well supplied with linen closets and presses. The attic has three bed rooms, and a room for putting away carpets, or for other useful purposes. The space over the bath room and adjoining bed rooms, is appropriated for a tank loft.

The porch, verandahs and bay window are prominent features in the design, and nothing, we think, can fully compensate for their absence, in an American country residence, more especially in the Middle or Southern States.

In this design, the porch is made to project from the line of the verandahs, and to rise above them, thus giving more prominence to the entrance.—The window from the bed room over the hall, opens to the balcony over the porch, and also a window from the chamber over the parlor, to the balcony over the bay window.

The eaves have a broad projection, to shed the rain and snow off from the house. The projecting hoods over the windows serve to protect them from the sun and rain, and by a judicious arrangement of the different parts, we think a pleasing outline is obtained, and a good effect is produced.

The house is built of wood, well framed and boarded with one inch boards, planed and painted. There was a lining of heavy paper felting put on the frame before boarding, and the frame filled in with bricks, three feet high from the sills.

The interior is to be finished in a plain but neat style. The details of the exterior are all carefully worked out, agreeably to the design, from full sized working drawings. There are cellars under all of the house, walled with stone.

The contract for building and finishing this house, was taken at $4,300, to be done under the superintendence of the architects. The plumbers' work was not included in this contract.

Designs, with working plans and specifications, can be sent by mail, at a very trifling cost, to any part of the country.

If you have a tree that grows "apace," but won't bear, dig a trench around it, and cut off a third of the roots. This will check its growth, and set it about making fruit buds.

[Communicated to the American Farmer.]

NEVASSA GUANO.

This is the name of a new variety of Phosphate of Lime which is now extensively imported by the Philadelphia Guano Co. It represents reddish brown grains of pea size, and smaller, which, upon an ocular examination, show to consist of a perfectly white central mass, and of a reddish brown layer forming their outer crust. The central mass is composed of Phosphate of Lime, the exterior layer of Per Oxide of Iron and some Alumina.

From this peculiar formation of the grains it seems more than probable that an original massy deposit of Phosphate of Lime was so located, either in the bed of a river, or stream of the ocean, as to be induced to comminute into small fragments, which, in the course of time, were rounded like our common river sand, and subsequently coated with an iron mould, such as is generally held in suspension by moving waters.

The action of its two constituents on each other, (Phosphate of Lime on one side, and per oxide of iron and some alumina on the other,) was certainly altogether mechanical. A chemical action, as could have been produced by a contact of phosphate of lime, with sulphate of iron, (the product of the decomposition of iron pyrites,) and which would have led to the formation of phosphate of Iron, has not taken place here to any significant extent.

The results of my analysis fully agree with these views. A sample which I obtained from Wm. F. Murdoch, Esq., the Baltimore Agent of the Philadelphia Guano Co., was found, upon analysis, to be composed, as follows:—

Bone Phosphate of Lime,	64.02
Containing of Phosphoric Acid, 29.35	
Phosphate of Iron,	6.68
Containing of Phosphoric Acid, 3.15	
Carbonate of Lime,	4.71
Per Oxide of Iron, some Alumina, (and a trace of Sand,)	15.74
Water,	8.85
	100.

The above composition shows this article to be a highly concentrated Phosphatic Manure. As to its per centage of Phosphate of Lime it is, in fact, surpassed only by Columbian Guano, and equalled by but a few select cargoes of Mexican Guano.

The paramount object of its application should not be so much to benefit a special crop, but to improve our soils permanently by amply supplying them with Phosphate of Lime.

It is offered to the public in the ground state as fine as it could be rendered so by mechanical means.

This article should, therefore, be welcomed as a desideratum, and especially at the present time when the want of proper Phosphatic Manures was beginning to be most seriously felt.

CHARLES BICKELL, PH. D.

[This Guano is stencilled by the State Inspector "Nevassa Brown Columbian."—ED. FAR.]

CLOVER MACHINES.—Mr. S. W. Buckley, of Hope, Warren Co., N. J., in answer to an inquiry in our paper, writes us that he has a machine, to be propelled by a two horse power, which will thresh 15 bushels per day of clover seed, and separate the chaff, which he sells at $30. He says they are light and neat, and thinks they are just what the farmer wants for such a purpose.

AMERICAN FARMER.

Baltimore, April 1, 1858.

TERMS OF THE AMERICAN FARMER.

Per Annum, $1 in advance—6 copies for $5—13 copies for $10—30 copies for $20.

ADVERTISEMENTS.—For 1 square of 8 lines, for each insertion, $1—1 square per annum, $10—larger advertisements in proportion—for a page, $100 per annum; a single insertion, $15, and $12 50 for each subsequent insertion, not exceeding five. Address,

S. SANDS & WORTHINGTON,
Publishers of the "American Farmer,"
At the *State Agricultural Society's Rooms*, 198 Baltimore-st.
Over the "American Office," 5th door from North-st.

TIMOTHY SOD FOR WHEAT.

A correspondent of the *Rural New Yorker*, from Ohio, communicates the opinion that where wheat is liable to be winter-killed, the sowing upon a Timothy sod is a great preservation. When he observed very general destruction from this cause, the exceptional cases he found to be sown almost invariably upon an old Timothy sod. One farmer who seemed to be always exempt from injury said: "If I can secure an old tough Timothy sward, I am almost certain of wheat." The writer further states, that "no soil in the world is as uncertain as the prairie on the score of winter killing,—or rather none more certain to have the wheat sown upon it winter killed; yet the early settler raised wheat upon the original tough sward with very uniform and invariable success."

The clover lay is without question the best foundation for a crop of wheat of all ordinary preparations. The clover however usually perishes after the second year and pernicious weeds take possession of the ground. The fallow for wheat therefore must not be postponed beyond the second summer. But it is often to be desired where wheat is the staple and should command the very best preparation that the rotation be a longer one. Indeed we doubt if any portion of our wheat growing region might not be benefitted by a system which would give more grass. It would give more abundant supplies for necessary stock or furnish a cheaply made crop for market, and if it contracted somewhat the surface devoted to wheat culture, would even increase that crop by the gradual but certain improvement of the land.

We have heretofore expressed the opinion that the Timothy grass might be introduced into our ordinary rotations for wheat and answer every purpose without any necessary attendant evil. The seed is not costly—indeed every one can easily raise his own seed. It will take possession of the land as the clover passes away, forming a close turf for its protection. It yields an abundant crop of hay of the best quality, and always commanding the highest market price, and the turf we have reason to think, though we would not speak unqualifiedly on this point, is not unfriendly to the growth of wheat; except where the sod is so old that the Timothy has given place to the native grasses. In a rotation where wheat was the main crop this would not occur, as the Timothy would after the second year give place to that. The circumstance mentioned above of the protection afforded by the sod against winter-killing is one of no little value, and we see no reason to doubt that it would afford all the advantages of the clover lay, with the additional fertility caused by increased quantity of decayed and decaying roots.

We cannot we are sure too frequently or urgently press upon our readers the necessity of an increased attention to the cultivation of the grasses. No system of culture but must retrograde unless they lie at the foundation of it. It is not merely the supplies of bacon and beef, of lambs and wool, and health and strength for the labouring animals depend upon them, but the very life and preservation of the land itself. Nothing like a good sod prevents the rich surface soil from being washed off by the rains. It protects it against the extremes of winter and summer weather. It affords the peculiar benefit of the mulch. It fills the whole surface soil with plant food in the very best condition for ready use and economical preservation. It absorbs and retains the abundant elements which the liberal atmosphere supplies.

We recommend Timothy here only as better suited than orchard grass for this particular purpose of lengthening a rotation in which wheat is the important crop. The difference in cost of seed is a large item in favour of Timothy when it is to be used on so considerable a scale, and for a short rotation. It affords, it is true, much less after-growth and pasturage than orchard grass, but then it should be borne in mind, that a grain farm is to be but moderately taxed at any rate, with grazing stock. Heavily stocking land devoted to grain growing, under the impression that "the more cattle the more manure" and therefore the more grain, is a grievous error. The main chance is best subserved by bringing the grass and grain culture together without the intervention of the tooth and the hoof; whatever of the latter is admitted should be done with caution and with careful subserviency to the more important staple.

ROTATION FOR A GRAIN FARM.

Our friend R. L. H. at "Cotton Grove," N. C., wishes to be advised as to the best plan of working a four field shift in which he proposes to cultivate wheat, corn, oats and clover. A meadow furnishes Hay and pasturage, and the upland is exclusively devoted to grain growing. The soil is variable as to original quality, and as to its present condition of fertility. He suggests the two rotations of corn on sod, oats, wheat and clover; and wheat on clover

fallow, corn, oats and clover, between which he is undecided.

Without undertaking to answer the various queries and suggestions of our friend in detail, we will endeavour to do so substantially, hoping as he intimates, that we may, at the same time, serve him and others.

There are two things which the right thinking farmer has always in view: 1st, an annual income, 2nd, the gradual but certain improvement of his land. Putting out of view any extraneous means of which he may be possessed—the income is the first necessity. He must make himself as far as possible sure of this, but he must not for this purpose, pursue a system which would be inconsistent with the second object. He must in his arrangements give due consideration to the proper and permanent improvement of his land. Keeping these principles in view let us consider the case which our correspondent proposes.

In cropping, the leading principle is *to take the best care of the staple crop*. To give it the best preparation, and the best position in the rotation.

Where cotton is the reliance for an income, it receives the chief attention, and has its wants first looked to; so with tobacco, or whatsoever the crop. In this case wheat is the main crop, and claims by virtue of the principle the best position in the programme. This place without question is the clover-fallow—as being, all things considered, the best and most certain preparation for this important crop.—The manure which the crop would receive would go to the poorer portions of the field, so as to create uniformity as far as possible. The corn would follow the wheat, then oats and then clover. This we would advise looking only to immediate income.—But the question now arises, how far such a rotation is consistent with the other consideration—the improvement of the land. Or as between the two plans proposed, which is best, looking at the same time to both considerations.

Under the plan which gives the clover fallow to the wheat crop, the land lies after harvest, until the plowing for corn next winter or spring, with no useful crop upon it, except so far as the growth of weeds turned under, may be useful—a benefit counterbalanced it may be, by noxious insects to which they give harbour. The corn takes the second place, the oats the third, and the clover the fourth. Now as regards the improvement of the land, the clover of course holds the first place, but it holds in this rotation the fourth. Three exhausting crops take immediate precedence of it, and it comes in with a secondary crop (that of oats) which is not of sufficient importance to command ordinarily either the manures of the farm-yard, or those which we purchase. Nor is the crop of oats considered so favourable to the success of the clover sown with it as wheat. The clover therefore, while the improvement of the lands is dependent upon it, has the worst possible chance of success. Under the plan which puts the corn upon the clover sod, the first effect is the falling off of the staple, wheat, which follows the oat stubble, but the increase at the same time of the crop of corn. The yield of corn will not only be more abundant under favourable conditions of the season, but much more secure against injury by drought. The crop of oats will be better too for being nearer the clover sod. The increase of these two crops will compensate in a measure at least, for the falling off in that of wheat. But the wheat crop is worth making a special effort for, and will command the best offices of the farmer, not only in raising manures upon the farm for it, but in buying fertilizers to insure a crop. With these helps we know that judicious farmers in many sections of our grain-growing country look with great favour upon the oat stubble as a preparation for wheat. The ploughing of a clover field is much more dependent on the state of the weather than the oat stubble, and in times of drought the fallowing is often delayed to a very late period.—The breaking up of the oat stubble destroys only the growth of weeds after oat harvest—the breaking up of a clover fallow destroys a crop of clover whose beneficial effects might have continued at least six months longer. But the most material point is this, that the clover crop gets the benefit of the extra preparation and manuring for the wheat crop. It comes in for a share of the manures at any rate, and a small share will give it an important impetus. There is this consideration also, and the experience of last season will give force to it, that the wheat crop failing, a valuable crop is still upon the ground to get the benefit of the manures. If he does not get the value of his manures in the crop, he gets it in the improvement of the land.—With wheat upon the clover sod, if the crop fails, the strength of the land and whatever of manure may have been used goes to the immediate nourishment of an extra crop of weeds.

For these several reasons, we advise our friend in choosing between the two, to adopt the rotation which puts the wheat upon the oat stubble; giving it all the manure he can afford it. If he lose somewhat in the start, he will be abundantly compensated in the end by the improvement of his land.

If he can dispense with the crop of oats altogether, and will substitute the field pea, sown broadcast in May, he will have a fallow for his wheat hardly inferior to the clover, and the change will greatly benefit his land.

☞ Dr. W. R. Holt, of N. Carolina, received the premiums of $40 and $50, for wheat, at the last State Show of that State. We will give the statements in our next,—they were in type for this month, but with a number of other articles, crowded out.

MARYLAND LEGISLATURE.

The legislature adjourned on the 10th ult., after passing about 450 acts and resolutions, four-fifths of which are of a private nature. Amongst those of a public character, however, were several of much importance to the State, of which the call for the sense of the people to decide upon the assembling of a convention to revise the Constitution of the State is the most prominent.

The bill for the weighing and inspecting of Grain in the city of Baltimore, and the appointment of an Inspector General, with a salary of $2,500, and four assistants, at $2,000 each, passed both houses, and is a law. The bill reported, in accordance with the wishes of the Corn Exchange, for the selling of corn, &c., by weight, instead of by measurement, was not, we believe, acted upon in either House.

The bill providing for the inspection of manufactured manures, as well as Guano, and the appointment of two Inspectors, instead of one, passed the House of Delegates, but was lost in the Senate, and the law remains as formerly. The receipts from the office, under ordinary circumstances, are too great for one person, although the duties could be easily performed by one Inspector, and a bill changing the system, was presented in the Senate, by Mr. Wilkins, from the Committee on Agriculture, requiring the fees to be paid into the treasury, and the expenses incurred to be paid by the treasurer, out of the proceeds, and the overplus to be retained as a fund towards building warehouses hereafter, for the accommodation of the Guano trade; but this bill failed in its passage.

A law was passed for the appointment of Inspectors of manure sold by the cart load; the nature of the act we have not learned, as we have seen no copy of the bill.

The bill for abolishing the office of State Chemist, and another for changing the duties of the same, which latter had passed the Senate, were never called up in the House, consequently the law remains in force, as originally on the statute book, and the newly appointed State Chemist, will enter upon his duties on the 1st of the ensuing month.

The bill granting aid to the Md. State Agricultural Society, passed the House of Delegates, but was defeated in the Senate. The officers of the Society relied upon the justice of the claim, and had a right to expect that in a body composed of a majority of farmers and planters, but little difficulty would be found in securing its passage—but there is too much reason to fear that the general reports of the necessity of log rolling and employing lobby members to secure the passage of any bill, (in which political considerations may have nought to do,) are not without foundation. Several of the members of the Executive Committee of the Society, were some time at Annapolis, but they had nothing to do with any other measure before the legislature, and were content to let their bill stand upon its own merits.—They are indebted to several members of each House, for the interest they manifested in behalf of it, but unfortunately for the Society, there was some reason to fear that there was an under current at work, actuated by personal, and, perhaps, political motives, which caused the loss of the bill, which only reached a vote in the Senate, on the last night of the session—when it was lost for lack of three votes of a constitutional majority. The bill asked for the sum of $4500, and a further sum of $500 per annum, payable after the holding of each annual exhibition; an amendment was offered striking out the first clause, and continuing the second, which would have passed the Senate, but the friends of the Society preferred a vote on the original proposition, as it was conceived that no amendment could be reached by the other House at that late hour of the session, and that the Society could not even realize the lesser amount, under such circumstances. This, however, is not to be the end of the matter, and possibly under more favorable circumstances, at a future day, we may be successful. For future reference, we will give the vote upon the question in both branches of the Legislature, as soon as we can obtain a copy of the votes and proceedings.

The untoward result of this application, there was much reason to fear, would operate to the suspension of the active operations of the society—as the debt hanging over it, there were no apparent means at hand to liquidate—but we are happy to be enabled to state, that at a called meeting of the executive committee, held since the adjournment of the legislature, the President of the Society, *Jno. Merryman*, Esq., has made a proposition of a most liberal character, by which it is hoped, an arrangement may be made satisfactory to its creditors, a full reliance being had, that by the indomitable perseverance which it is well known he possesses in a high degree, and the introduction of a more thorough system of economy and accountability in the several departments, with the cordial aid of the friends of the Society at the ensuing Fall Show, he may be made harmless in the individual responsibility which he has offered to assume. The Executive Committee took no action in the premises, deeming the step proposed by the President too hazardous to himself, for them to recommend its adoption, but leaving him to act in the premises as he may deem proper.

PEABODY CORN.—A gentleman of Suffolk, Va., says, he got some of this corn last year from Mr. Peabody, and planted 2500 hills on moderately fair land, 5 by 5, and without any manure whatever, and gathered *nine barrels*, which he thinks was half as much again as the land would have produced in other corn—but the weight is not so heavy as that he got from Mr. Peabody—others (two or three persons) near him also tried it, but do not think very well of it. Our correspondent thinks it very good.

On the land he planted, not more than one-third of the stalks had suckers, but where there were none, the stalk had from 3 to 7 very good ears.

WYANDOTTE AND PEABODY CORN.—A Correspondent near Alexandria, says:—

I have a small lot of the Wyandotte Corn raised in my garden from 30 grains planted—I am much pleased with its productiveness—tho' that was very much diminished by a mistake of a servant, who thought he was doing good and acceptable service by *succouring* the whole lot, but one hill, which escaped by accident; that hill produced from one grain, 19 stalks, and those that had been succoured produced a fresh supply ranging from 4 to 8 or 10 stalks, tho' so late as to bear no ears. The grain of the Peabody is better, however, though the other is whiter.

CULTURE OF THE VINE.

From a correspondent in East Tennessee, we recently received a paper in which a number of drawings were introduced, illustrative of the cultivation of the vine, and the manufacture of wine in that State. Knowing the zeal of Maj. *Giddings*, of Severn Side, in this State, and his intimacy with the interesting subject treated of by our correspondent,—and conscious of our own lack of judgment in the premises,—before incurring the expense of the engravings necessary to accompany the essay, and also desirous of having his views as to the applicability to our country generally, of the system adopted and recommended by our Tennessee friend, we deemed it advisable to submit the matter to his consideration, and to be guided by his decision. The Major, in returning the manuscript, has intimated to us that the writer had not kept himself fully acquainted with the progress which has been made in the culture of late years, and hence has led us to infer, that the practical benefit to be gained by the publication of the paper, would not compensate for the expense of the engravings, and the space which it would necessarily occupy in our limited pages.

In lieu of that, we have been enabled to obtain from the classic pen of Maj. G., the admirable communication with which our pages for this month are graced upon this interesting topic. We are sure that no one who peruses it, but will feel indebted to the writer for so rich an intellectual treat, as well as for the practical information he has embodied in it. The cultivation of the Vine and the manufacture of the blood of the Grape, has too long been neglected in this country—and it behooves the people of the South, to arouse themselves to a consideration of the importance of this branch of rural industry. Major Giddings shows very clearly that the latitude of the best vine district of the old world, is parallel to that of this country. Is it not, therefore, astonishing, that so many millions of dollars are annually sent abroad for the purchase of an article, known from the highest authorities to be so vilely adulterated, that no one partaking of it is sure of escaping the effects of the poisonous drugs used for the purpose, whilst in nearly every section of our own wide spread country, and more particularly in our Southern climate, in a few years a full supply of the pure juice of the grape could be produced to take the place of the imported article. We think *this* is a matter, at least, in which every "*native American*" should be willing to unite against the "*insidious foreign foes*" which have been pouring upon our shores, destroying our "*constitution*," and ruining our bodily health. Hence, we do not know but the "signs of the times" point to the present moment as an auspicious one to raise the banner of the new party recommended by our gallant Major; and the evidence we this month present of his capacity for a leader in the "good cause," point to his selection as the commander of our forces, and we promise to become faithful soldiers in his array, and follow in his footsteps on to victory. But, let us assure our friend in advance, from our own observation and long experience in the ways of the world, that he may expect after bearing the heat and burden of the day, and victory is just within his grasp, that those who have stood aloof, or given the cold shoulder to his enterprise, will be found entering the ranks at the last charge of the conflict, and claiming the highest honors and the "*loaves and fishes*" at the disposal of the new party, whilst he and his early co-laborers will be required to take their places at the foot of the table, and bide a more "convenient season." Such let us assure our friend, will be his position—it will be considered a sufficient reward for him, that he has labored in a patriotic cause, and he must be satisfied with the approbation of a good conscience, whilst the camp followers and hangers-on of the party bear off what they no doubt conceive to be the substantial fruits of the victory.

But to be more serious—we have much to say upon the subject of this new party—and have sometimes had a strong inclination, and been strenuously urged to take the initiatory,—the establishment of an independent press,—to advocate its cause. 'Tis true, there are many in the present day, ready to exclaim with the "god-like" Dan, on a similar occasion, "*where shall I go*"? most of these might be induced to join the new *Wine*, or *Agricultural* party from principle—then there are the hosts of the disappointed, in the late distribution of the pap at our State and National capitals,—and their name is legion,—the most of these could easily be induced to enter our ranks, if we could make it appear that ours was to be the *strongest* party,—but one difficulty always presents itself to our mind:—the very class of men, most interested in our enterprize, and for whom we would have to labor—the Agriculturists—would very likely be found giving their support to any other cause than their own. To illustrate our position, and we only take the case because of more recent occurrence, but it is a type of many others which have come before us of the same purport.

During the recent session of our legislature it is known to our readers, that application was made by the State Agricultural Society of Md. for certain aid to which it was deemed we were entitled from the coffers of the State—an early application was known to be essential, to enable a bill to reach its final passage within the limited period of the session. This was attended to; a memorial with as strong and as *just* a case as ever was presented to that body, was laid before it, showing that all we asked was to be placed on the same footing with another valuable institution, devoted to the interests of the mechanics and manufacturers of our City and State. Statistics were grouped together, and accompanied the memorial, evincing the light in which similar societies to our own were held in other States, by the amounts which were annually paid to their support from the State Treasuries. A bill was prepared, and laid before the joint committees on Agriculture, and by their unanimous adoption of it, ordered to be pesented to the lower house. After this step had been taken on it, and with the full understanding that it was forthwith to be offered, weeks elapsed before the bill was even presented. It was however, laid before the House, and after considerable further delays, it was finally brought to a vote, and by the bare constitutional majority it was passed, and sent to the Senate. Here again it met with the cold shoulder, and it was not till the very last night of the session that a final vote could be taken on it, when it was lost for the want of 3 or 4 votes. We could write a history in regard to this matter, and the way things are managed in our

legislative bodies,—but *cui bono?* it appears to be the same in every other similar body in our country. But to the point, for we find we are becoming prolix. We asked a Senator representing one of our greatest agricultural counties, how it was, that they could vote the money of the State to every conceivable project which was presented to them, (in the language of the Senator from Charles, who, with out-stretched arms, was continually protesting against the "throwing wide open the doors of the treasury to every thing and every body who asked,") but that when any thing was claimed for aid to agriculture, then it was that the fear was manifested of a bankrupt treasury. He admitted that such *was* the fact, but could not tell why it was so. He however, amongst others from whom better things were expected, voted against and killed our bill.

The application which we wish to make, our friend will readily understand. Two thirds, probably, of the members of the legislature, were farmers, or representatives of the farming interests—yet had the bill not received nearly the entire vote of our city delegation in the House (9 out of the 10 voting for it,) it would have been lost there—these 9 represented other interests than those of agriculture, but upon this subject fairly and properly reflected the wishes and interests of their constituents; whilst their colleague in the Senate, whose attention was called to the subject of the importance to the city, of sustaining the Society, aided in its defeat, after the country members had so lavishly bestowed largesses upon almost every public or private institution or individual enterprize within the borders of, or immediately connected with our city. Still, had the agricultural counties of the State, been properly represented in that body, or their wishes consulted, the aid asked for would no doubt have been granted. But agriculturists must look to their own interests more, and place men in office who will not turn their backs upon every effort to exalt the character of their profession and to foster its interests; and if we can be convinced that the *new party* of our friend would embrace this as the main plank in *its "platform,"* we are prepared to "hang our banners on the outward wall," and be found in the thickest of the fight, and we know of some gallant spirits who may be relied on to enlist for the war with us.

Our correspondent points to the fact, that government aid has been freely extended to laying the Atlantic Telegraph Cable, with men, money and ships, and asks, why may it not contribute in like manner to the investigation he proposes, in regard to the Vine Culture. We can tell our correspondent why—because every other class is prompt to make their will known to their representatives at Washington or elsewhere, whenever they have any thing at stake, and by an united effort they always succeed—whilst the agriculturists of our country can rarely be induced to take an active part in securing any measure which is calculated solely for the public good, in connection with their vocation. The appointment of some clerk in a branch of a bureau, attached to one of the Departments, to travel at the public expense, in search of suitable *caves* for (national?) wine vaults, is perhaps, a fair sample of the wisdom and efficiency with which affairs pertaining to agriculture are managed—but the only wonder is, that even this poor boon has been extended.—If commerce or manufactures, or stock jobbers, and the like are concerned in any measure, the public domain is granted, and the public treasure is poured out to an illimitable extent—but let Agriculture ask for a sheer act of justice at the hands of government, and how soon do we find, that a horrible spectre of a depleted treasury rises up to frighten the good easy souls who represent, or misrepresent, two-thirds of the people, in our legislative halls. Millions of acres of the public lands have been granted to railroad and other stock-jobbing companies, and no qualms of conscience about its constitutionality prevents the donation. But an application, on a smaller scale, to establish Agricultural Colleges, a bill for which is now before Congress, will, our word for it, be met by a constitutional objection, and by the fact of the immense amount already bestowed upon other objects. Again, we see it stated that the cost of printing, alone, for the last two Congresses, amounts to $4,000,000 (four millions of dollars!) — besides probably a million or two more paid for the departments, as douceurs to hungry partizans and editors, and for the publication of worthless documents,—the same remark may be found applicable to our State legislatures,—to sustain political presses.—Thousands of dollars are expended upon useless objects, which even if they were worthy of seeing the light at all, are paid for at prices amounting probably to more than thrice the cost of the labor and material employed;—this is done without the slightest squeamishness upon the subject,—no fears are entertained as to the treasury's holding out, when the people's money is thus thrown away, and the representatives of the Agricultural districts are equally forward with others in the matter; but an humble demand for a simple act of justice to a great public institution, devoted solely to the farming interests, to place it alongside of one of a similar character belonging to another class, is turned off from the smiles of the State, because, forsooth, every other object has been gorged with the pap of the treasury, to its depletion, and there is nothing left for it.

WINES AND VINES.

BY MAJ. L. GIDDINGS, OF MARYLAND.

SEVERN SIDE, Anne Arundel Co., *March 10th, 1858.*

To the Editors of the American Farmer:

GENTLEMEN:—I thank you for the pleasure I have derived from perusing the paper on "Wine Culture in East Tennessee." Evidently, like all young vine-planters, the writer is quite in love with the business. I myself confess to a tender feeling for the vine. It is about ten years since I planted my first vineyard on the Miami, in Ohio, and subsequent experience has but served to increase my interest in the cultivation of the Grape. What plant is more beautiful, luxuriant and valuable; what fruit more delicious and healthful? It is, too, more readily propagated, and more rapidly multiplied than any other; and all its parts are applied to various and important uses. In the Orient it has always been held in the highest esteem. The Jews considered it the most noble of plants, and hence it is frequently used by the Prophets to represent the Jewish nation. But the greatest honor conferred upon it, was when our Saviour declared,—"I am the true vine."

Vineyards, we know, have been cultivated ever since the Deluge; and indeed, judging from the great age and stature attained by the ante-diluvians, ("there were giants in the earth in those

ers,") we may presume that even Methuselah and his venerable compatriots drank the pure blood of the grape. But though the art of wine-growing has been practiced from that remote period, its progress has been slow, and we have yet much to learn concerning it.

We are told that an ass, of Nauplia, by cropping the vines, and thereby making them more productive, first taught the art of pruning to the ancients: and whether it be from want of respect for the teacher, or aptitude in the pupil, the lesson seems most difficult of acquisition. It is, next to *dry soil*, of all things in vine-culture, the most important. Any one can plant a vine, and the chances are that it will grow more certainly than any other tree; and with greater or less luxuriance, according to the soil, climate, or variety.—But to secure the greatest quantity and finest quality of fruit, and for a long series of years, requires a amount of patient labor and attention, which scarcely any other fruit so absolutely demands; and which but few persons are willing to bestow. Hence the numerous failures with vines. Hence the common complaint of so many who have grapes in their gardens:—"What can be the matter with my vine? It grew vigorously for a few years, and *then covered the whole trellis.* It produced a few fine crops; but now the bunches are few and seldom ripen, and the vine itself seems to be dying." The secret of the matter is,—the vine has never been pruned; or if the knife has been used, probably the new instead of the old wood has been cut away, and perchance, too, that nearest the ground and stock. To prune a vine requires intelligence and skill, and a knowledge of the variety under treatment. It must be done, too, at the right time, as well as in the right way. It will not do to trim vineyards as many do their orchards, viz: *every five or ten years, and then with an axe.* Regard, too, must be had to the mode of training. When this is known and remembered, (as it should be by every one who cultivates a vine) that he can expect his crop *only from new wood*, (that is, wood one year old) and that new wood must be properly provided and carefully trained every summer—(in this consists the great importance of summer trimming)—for the next year's crop; he will be in a fair way to learn how to manage his vine. His object in pruning should be to get rid of the old wood (which has yielded its fruit,) that the roots may not be taxed longer with its support—leaving only such portions as may be necessary to serve as conduits from the stock to such new wood as he determines to retain for his next crop of fruit. This should be done *annually*, after the establishment of the vine, and the cultivator has decided upon the method of training he will adopt, and is satisfied as to the quantity of grapes he may reasonably demand from his soil. Of this he may be assured, that if he suffers an unrestrained, rampant growth of wood, or an overload of fruit to be borne, he will pay dearly for it afterwards. Vines are laden *heavy* or *light* according to their strength, and the age it is desired they should remain productive. A good vine-dresser always uncovers and examines the stock, before he prunes his vine, so as the better to determine the number of fruit-buds to leave upon his bows or canes. Hence, too, when it is proposed to root out a vine, either to replace it with another, or for any purpose, it is pruned but little the last season of its existence; and so, charged with the heaviest load of fruit it can possibly bear. This is what the French call the "*charge à mort*," and the result generally proves it to be so. How many persons in this country unconsciously load their vines to death!

The truth is, Jean Raisin is a *fast youth*, fond of seizing upon and running over everything, climbing to the tops of the highest trees, and performing divers other useless feats. His exuberance needs restraint (judicious pruning,) or he will soon waste himself and substance in riotous living. Like many other wild youths, he is, too, most tractable, and may be easily induced to enter upon a most profitable and praiseworthy career.

But it is needless to enlarge upon the necessity of pruning, both in spring and summer; the working and enriching of the soil is much less important. Of course, in performing this work, the variety of grape, the soil and climate, must be considered. Thus, the feeble and slow-growing vines, which yield the choice wines of Burgundy and Champagne, require a different treatment from the luxuriant varieties cultivated in other parts of France. So also our Isabellas and Catawbas, especially at the North, should be shorter pruned and lower trained, than the more free-growing Scuppernong, Herbemont, and others. Why is it that Italy, with its matchless climate and soil, does not produce wine of equal quality with less favored parts of Europe? Excepting the famous *Lacryma Christi* (which holds a place in the first class produced by any country,) its wines are generally very common. Italian wines, indeed, seem to have been gradually deteriorating, while those of Spain, France and Germany, have been constantly improving. May this not be owing, in some measure, to the general neglect of pruning, and the high method of training which obtains almost exclusively in that country? There the vines are trained over trees, and conducted from tree to tree, thus wasting their rich juices, not in fruit, but in leaves and branches.

I observed that your Tennessee correspondent had planted and *retained*, even to the third or bearing year, *two* vines to each stake. Admitting that his soil is rich enough to feed the roots, I do not see how he is going to dispose of the mass of wood and foliage which will be produced. I think he will find the branches and fruit of one, as much as he can train and display in the space given to each vine. His vine-dresser's plan of training the bearing wood from stake to stake, is less convenient and compact than the bow system; does not so equalize the flow of sap to the buds; adds greatly to the trouble of working the ground; and increases vastly the risk of losing the fruit.

The best mode of pruning and training our native grapes, is well taught in the excellent manuals of Messrs. Robert Buchanan and Charles Remelin, both extensive wine-growers of Ohio. To the courtesy of the former gentleman and of Mr. Longworth (the pioneers of American Grape Culture,) I am indebted for much useful information and counsel. The subject is also very fully explained and clearly illustrated, by Dr. Warder, of Ohio, in the Patent Office Report for 1856.

East Tennessee, from its temperate and uniform climate, has long enjoyed the distinction of being "the Italy of America." It is, I think, destined to become one of the most famous wine-producing countries in the world. An examination of the recent interesting reports of the Geologist of that State, has strengthened my opinion. And, con-

sidering the dryness and uniformity of its climate, I should suppose that some of the best foreign wine grapes, could be successfully cultivated there, since the obvious cause of their failure in those portions of the United States where they have heretofore been introduced, has been the sudden changes of temperature, and often excessive moisture, at the time when the berries are beginning to ripen, and which so frequently—in connection *with other important causes*, I dare say—produces that destructive disease, the rot, even in our hardy and thick-skinned native varieties.

I have long known of the existence, and observed with interest the progress of vineyards in Polk—the extreme South-eastern county of Tennessee. They were established by a colony of French and Swiss, under the leadership of Mons. Guerrin, a retired French officer, a graduate of the Polytechnic School, and of course a gentleman of general scientific acquirements. A gentleman who has often visited that Alpine region, in the midst of which this colony is established, brought to me last year, some cuttings of the "Tennessee Catawba," (a Fox grape) from M. Guerrin's vineyard. He cultivates both that and the genuine Catawba, and the wine is made from a mixture of the *must* of both grapes; though in what proportion I did not learn. The gentleman above mentioned has tasted the Polk county wine, and also that of the vineyard at Severn Side. He says that the former is more *rough* and astringent than mine; which may be accounted for by the introduction of the juice of this native Fox, or perhaps the wine may not have been fully ripe and mellow. I hope Mons. Guerrin may be induced to send you for publication, some of his experiences. The whole of that magnificent mountain region, in which the principal rivers of Tennessee, Alabama, Georgia and the two Carolinas, find their sources, will some day become the favorite home of the vine-dresser and the miner. Its climate rivals that of California, and its hills are full of the richest metals. The golden and copper colored grapes above the surface, but reflect the hues of the rich ores that lie beneath.

When we consider that the vine-district in the Old World, is comprised between Shirez (in Persia, lat. 30°) and Coblentz, (Germany, lat. 50°) and that those parallels are almost precisely the geographical boundaries of the United States, North and South; that within these limits every variety of soil is to be found: and when it is further considered that there is not a native grape in Europe, (all brought from Asia—some of the best by the Crusaders,) while our country, from Canada to California, is full of indigenous vines, we may reasonably expect that success will attend the business of wine-growing, in nearly every State of our Union. Doubtless, as in Europe, there will be an almost countless variety of wines produced here. "The Sunny South" will probably be distinguished for its strong, full-bodied wines, or its rich *vins de liqueur*, rivalling, perhaps, the luscious Tokay, or old Mountain Malaga, or Constantia. The Middle and Northern States may aspire to produce light, delicate and high-flavored wines, not inferior, in aroma or boquet, to the Hermitage, Sillery, (*non*-Mousseux) or Johannisberg of the blue seal.

The mode of preparing the soil for a vineyard, as pursued by your Tennessee correspondent, viz: by deep trenching with the spade—is necessary for all heavy, retentive clays. Even upon some steep, and seemingly dry hill sides, in which the dip the underlying rocks is unfavorable to drain it is to be recommended. But it is a very ex sive business, in this country of dear labor, found to my cost, in the preparation of my vineyard in Ohio. I employed two stout yo Germans, to trench between one and two ac and they made enough money by the operation carry them, with a good outfit, to California; where they have probably not found gold-digg so profitable. Yet I believe they labored fa fully, and earned their wages; and had I retai possession of the property until the vines c into bearing, I should have been compensated the outlay.

As to the situation of vineyards: "Bacchus a colles,"—*the vine loves the hills*,—is as true now when Virgil wrote it; and as applicable to New as to the Old World. And this, because hills are generally of lighter and dryer soil t the plains, and also less rich. Vines planted strong alluvial plains, will grow luxuriantly, be very impatient of close pruning. Wine is good in proportion to the size and vigor of plant, but rather the contrary. Rich render high training necessary, and the gra of such vines rarely mature well, and mak hard, austere wine. By close pruning and training, the fruit receives the benefit of the flected as well as the direct rays of the sun, of the warm exhalations from the earth. In last particular, the vineyard at Severn Side is pecially favored. The soil is a sandy loam, fil and its surface covered, with dark brown fer ginous sand-stone of every form and size. largest I removed for building purposes, bef planting; but the smaller stones remain scatte over the surface, to absorb, reflect and exhale summer's heat. They contain a large per ce of iron, and often become so thoroughly heat that they cannot be handled with comfort. hours after the sun has set, they continue to e their genial heat, and I have no doubt thus con bute greatly to the health of the vines and the turity of the fruit. Dryness seems to be an ind pensable requisite in the soil for the vine. It grow in almost every combination of earths rocks, provided it be open and porous. "T grape cannot bear a wet foot." In all its sha and ages, it is as averse to water as a cat, or old toper; though a little in the form of ice be admitted to mingle with the blood of some rieties in summer.

Of the exposure or aspect for vineyards: In region, our summers are generally long and wa enough to ripen the grape in all situations. In more variable climate, like that of Southern O and Missouri (where most of our native wine now grown) the buds are often damaged by spring frosts; and a Northern exposure, theref by retarding the flow of the sap to a safe period the spring, would seem to be preferable. I sele ed that aspect for my vineyard on the Miami; I believe its crops have never suffered from spri frosts. Some of the best wines of France, are grown on North hill sides. Of course, in mo northern latitudes, where the vine with difficu ripens its fruit, warm sunny slopes must be selec ed, to aid the brief summer in perfecting the vi tage. If, as many writers have suggested, t "speck" is caused by the action of the sun on fruit when covered with drops of dew, then Eastern exposure is to be avoided. There are t

nds of *the speck*. The one described by your nnessee friend being only skin-deep, does not receptibly affect the quality of the wine. The er is a circular spot, which extends through to e seed on one side, leaving the rest of the berry und, and apparently uninjured; this is what is lled "the bitter rot;" and the grapes so affected ften but one or two in a cluster) cannot be put the press without serious injury to the wine.— e labor of the vintage was doubled at this place t autumn, in consequence of this *bitter speck;* ery bunch having to be carefully examined, and defective berries plucked off. A vineyard of 00 stocks, yielded more than four bushels of ese specked grapes. You can imagine what the aracter of the wine would have been, had this ss of bitter berries been subjected to pressure th the other sound and ripe fruit.

The rot, however, is the enemy most to be eaded by wine-growers. It has prevailed to a eater or less extent in all vineyards, and from e earliest ages, as may be inferred from several sages in the Scriptures. A great deal has been ritten about it, and the Doctors differ widely as the cause of the disease. The opinions are arly as conflicting as they are numerous. Every e has a *theory* (some without any supporting cts,) as everybody seems to have about every ing, in this "great country," from the organiza- on of a State to the raising of a potato crop.

Whether this mysterious disease, so destructive the grape, has its origin in earth, air, or water, is quite certain that, like the Cholera, it has en most prevalent and fatal *in limestone regions.* eg that you will not suppose that any *theory* or pothesis lurks in that sentence; for I have none; d besides, I do not wish to draw the "Farmer" to another calcareous controversy with any lime- one gentleman. I may assert, too—without be- thought guilty of fabricating an infernal ma- ine for the extermination of any reigning dynasty opinion—that the aforesaid disease has never tained a foothold in any "Piney Woods" coun- y, from Cape Sable to Cape May: and that the hole extent of this Pine region, along the Eastern pe of our country, abounds in native grapes, tly outnumbering those of the Ohio or Mississ- ppi vallies. I am at present engaged in clearing piece of pine land, on which the trees are com- etely matted and interwoven with vines. In- ed, the grape seems to revel in our light, warm, ndy soils, and to delight in the companionship the Pine. The Junior Editor of the Farmer is miliar with the scenery of this county and of outhern Maryland, and, I think, will agree that e of the most common as well as most beautiful jects in the landscape here, is the Pine, ("hon- ed and blessed be the evergreen Pine!") en reathed and crowned with the broad, bright liage of the vine; and the latter, when in blos- m, filling the air with the most delicate and de- cious fragrance. Had the wild grape been a ature in the landscape of Merrie England, I ink Shakspeare would have wreathed it into his arming description of a Fairy Bank, in "A Mid- mmer-night's Dream:"

"Quite over-canopied with lush woodbine,
With sweet musk roses, and with eglantine."

Be it remembered, too, that North Carolina, the nd of pine, pitch and turpentine, is the native abitat of the Catawba, and the State in which e Scuppernong yields a vintage of nearly 2,000 gallons per acre. The Catawba and Isabella are now grown extensively upon the sandy Southern shore of Lake Erie and its adjacent islands; and their product is more vinous and high flavored, than upon the clay and limestone soil of Southern Ohio. Mr. Longworth, in one of his interesting papers upon this subject, says that vineyards upon sandy soils will be less subject to the rot, and average double the crop produced where the subsoil is a stiff clay. Excellent Sherry is grown on the *arenas* or sands, near Xeres; and the far-famed Constantia and Cape Hock, are the products of a light sandstone soil. Now are we not at liberty to infer from these facts, that the assertion of most writers, that a calcareous or volcanic soil is essential to the growth of good wines, is not altogether correct? And further, that we have here in Maryland, and down the Atlantic coast southward to the keys of Florida, a soil admirably suited to the grape, and a climate more favorable (because less variable) than that of the Ohio valley. Those raw, sweeping and biting Northers, often so destructive to early vegetation, in all that transmontane region from Lake Erie to the Gulf of Mexico, are rarely felt here; their course, like that of the great Western waters, being diverted from us by that lofty barrier, the Alleghany. Judging from the wines of European vineyards, it would seem that calcareous soils, other things being equal, are preferable for grapes. But how easy a matter it is to add the requisite quantity of lime, where deficient in the soil. Considering how cheaply our light lands can be set with vines; and that our plains and hills are alike sufficiently dry and warm, without requiring the expense of deep trenching; and above all, our comparative exemption from the dreaded rot, I am induced to believe that our pine-lands might easily be converted into most profitable vine-lands.

Mr. James Busby, of New South Wales, an intelligent and observing gentleman, who about 25 years ago published his "Journal of a Visit to the principal Vineyards of Spain and France," in referring to the influence of soil upon wine, expresses the opinion, that there is some quackery in the prevailing notions on the subject. He says: "In those districts which produce wines of high reputation, some individuals have seen the advantage of selecting a particular variety of grape, and of managing its culture so as to bring it to the highest state of perfection of which it is capable. The same care has been extended to the making and subsequent management of their wine, by seizing the most favorable moment for the vintage, by the rapidity with which the grapes are gathered and pressed, so that the whole contents of each vat may be exactly in the same state, and a simultaneous and equal fermentation be secured throughout; by exercising equal discrimination and care in the time and manner of drawing off the wine; and by not selling it, until it should have acquired all the perfection which it could acquire from age. By these means have the vineyards of some individuals acquired a reputation, which has enabled the proprietors to command almost their own prices for their wines; and it was evidently the interest of such persons, that the excellence of their wines should be imputed to *the peculiarity in the soil, rather than to a system of management which others might imitate.*"

I agree with Mr. Busby in this matter. If the character of the wine depends so much upon pecu-

liarities of soil, aspect, inclination, &c., of vineyards, how is it that there is often such an amazing difference in the produce of vines separated from each other only by a fence or footpath?—And why is it that no *poor* vintager, no matter what may be the soil or exposure of his vineyard, can make a first class wine? Clearly because he does not possess the necessary knowledge or capital. And it is not so much the knowledge of those scientific principles, as the requisite skill and experience for their proper and successful application, which the wine-growers of America yet lack. Our common wine has been, from the outset, far superior to the same class, or *vin du pays*, of Europe. That we have not succeeded as yet in producing much wine of the first quality, is not owing to any defect of soil or climate, or skill in wine-growing; but perhaps, in some measure, the non-introduction, as yet, to our vineyards, of many superior varieties of grapes; and still more to our want of information and experience in the business of *wine-making*. By this, I do not mean the art of *mixing*, *brandying*, *dulcifying* and adulterating generally, so extensively and successfully practiced by the artificial wine makers of Cette and Lisbon, but to that legitimate manipulation and management of the pure *must*, through all the stages of pressing, fermenting, fining, racking, etc. which most favorably contribute to those necessary and natural chemical changes, which it should alone undergo, to become a perfect wine. In addition to this, considerable capital is required to secure the best results. It has been remarked, that "in nothing is the smallness of capital more injurious, than in wine-growing." Not to mention the advantages of having abundant labor, the best machinery, and capacious cellars, the loss by evaporation, in using small casks for ripening the wine, is enormous. Large casks are too costly for most European vine-growers to afford; and hence, in order to avoid the inevitable ullage, they are induced to sell their wine when green, and at a low price. The larger the cask, the better the wine; and the loss from the above mentioned cause proportionably less.

I have referred to our want of first rate wine grapes. In Europe they number nearly a thousand varieties; the Luxemburg garden collection alone comprises upwards of 500. From this vast number, scarcely a dozen can be said to produce first class wines. It is not remarkable then, that, out of about 70 varieties as yet discovered in America, only one, the Catawba, can claim to be ranked pre-eminently as a wine grape. It is a fine plant, yielding a durable wine of agreeable aroma, and inimitable boquet. But it is not the ne plus ultra; and our cultivators ought not to be, and are not content with it. Mr. Longworth, and the vine-growers' association of Ohio have offered premiums for a better *native American;* and we may hope that among the many seedlings annually produced some superior kinds will yet be found. I was pleased to observe that the Patent Office or Agricultural Bureau, did, last Autumn, send an agent to the South West, to collect cuttings of native vines. The last published account of his movements informed us that he had completed his *exploration* of *certain caves in Tennessee;* made, it was said, with the view of ascertaining their adaptation for wine vaults; but whether intended for *the State or National stocks of wine* was not stated.—Quere—Are our Legislators,—*stimulated* by their heavy wine or heavier wine-bills at Washington, about to follow the example of the old Fren Chamber of Peers, and own a wine estate?

I am not confident that this expedition will r sult in any valuable addition to our catalogue native vines; unless indeed the gentleman has e tered upon his task with something of the ar and zeal which Michaux devoted to his Sylva, Audubon to his Ornithology; and abandoning m routes and all such civilized institutions, prosec his search far and wide through the Indian Ter tory. After all the efforts which have been ma and when our Nurserymen can readily sell novelty in the form of a Grape (as they have are now doing,) for from 50 cents to $1 per b it seems hardly probable that any good varie remain undiscovered within the limits of our wi settlements. It is likely the new Pacific Stat or the northern departments of Mexico may f nish us with vines of some value. I have drank the latter country, a generous, good-bodied *tinto*, grown in Coahuila; but whether the prod of native or imported vines, I know not. N have I ever learned whether the wine of Calif nia is made from a native or foreign pla but most likely it is of Spanish parentage, taken thither by the Catholic missionaries. T magnitude and beauty of its clusters are remark ble; though we may not infer from this, that it a superior wine-grape. In the winter of 18 Mr. Longworth gave me a few seeds of this var ty. Only one of them germinated; and under fostering care of my vine-dresser, has made a ve good start in the world. Its progress will be served with interest.

It is now very generally conceded that no Eur pean vine of any merit, (with the exception the famous Rhine grape—*the Riessling*,) can successfully naturalized in the United States. am by no means satisfied of this; and am incli to think there must be some *know-nothingism* the matter. The trials have not been sufficient extensive in any sense, to warrant the conclusi The Atlantic Telegraph Cable has not yet be laid; and I believe that human perseverance skill are as likely to accomplish the one as the ot er. The naturalization of even one such varie as the *Formint*, (which yields "the King of Wines *Tokay*) or *Pineau Doré*, *Soyras*, *Pedro Ximenes*, the fertile *Liverdun*, which produces, after suffe ing from late Spring frosts, 2500 gallons per ac would redound more to the wealth and prosperi of the nation, if not to its fame, than the girdli of old Neptune with an iron rope. And if t Government may aid with men, money and shi in the one; why may it not contribute in li manner to the other. Such vines, should be i ported and planted, not in a few districts selecte at random, but in almost every county of eve State in the Union; and the experiment should b made with roots, cuttings and grafts upon our n tive stocks.

Next to bread-stuffs, wines may be considere one of the most desirable and profitable of th vegetable productions of a country. In the agri culture of France, the vine ranks next to whea in importance. The wine crop of that Empir alone, in favorable seasons, has approximate 1,000,000,000 of gallons. We, on the contrary neglecting hitherto the cultivation of the plant *waste* an enormous portion of our cereal produ tions in the manufacture of fiery and destructiv Whiskey.

All "Peoples" as Kossuth would say, have their tional liquors; and some of them are singular ough. In Northern Europe, the common drink a powerful spirit, distilled from grain and the *ack ant.* This it was which gave to the Russian gions at Inkermaen their frantic courage and unnted impetuosity. The canteens of their dead, aped upon that bloody field, attested the fact. t with this, they were no match for the enthuastic Zouaves—cool, sprightly and healthful as eir own native wines. The *Arika* of the Tartars distilled from fermented mares' milk. A favor- tipple of the Chinese is a liquor made from ambs' flesh, mixed with milk and rice, and fer- nted. But of all queer *brews*, the "Piworree" yanne is the most curious. It is made by the omen chewing a species of pepper plant, until it saturated with saliva. They then spit it out into ressel; and when a sufficient quantity of this ex- ract is made, they add water and leave it to fer- ent. The taste of many "peoples" then, having en so much perverted by "vile potations," it is ot strange that they should be slow to appreciate e pure and wholesome juice of the Grape; or at most persons should judge of wine rather by s potent effects than its vinous qualities. A man hose stomach has become "a burning, fiery fur- ace" from drinking brandies and whiskies with erhaps a dash of Cayenne pepper or some *bitters*, annot of course enjoy the generous and soul-en- vening juice of the vine. To his seared palate he most delicate Burgundy, Chambertin or Ro- anée, or our native Catawba, would be as spring ater. But a new generation with some healthy reshness of taste is growing up even in Russia, England and the United States,—nations much given to "*strong drinks.*"

There is a fashion in wines too, as in many other things; and it is not always founded on the best aste. Canary, as all know, was for a very long ime the favorite wine at English tables. And ow, about the commencement of the 18th century, by the Methuen treaty and the monopoly of "the Oporto wine Company," the English people were led to think that Port was the only good wine in the world, is an interesting chapter of British history; exhibiting, too, the ever burning jealousy toward France. The taste for Port having been forced upon the nation by its diplomacy and legislation, the Oporto Company did not of course long continue to supply it with the pure products of the vineyards of Douro. "With logwood, elderberry juice, brandy, burnt corn, &c., this diabolical company (thus exclaims an indignant writer on the subject) made and imported into England such a wine as the world never before saw!"—Thus Englishmen were compelled to drink the fiery adulterations of an interested Wine Company; and that exclusively, because the duties on the pure growths of other countries were almost prohibitory. They became accustomed to this coarse, hot wine, and shivered when the light wines of France were named: and retained their partiality for strong adulterated wine, long after the monopoly which caused it, was abolished. We have inherited that taste from them. Now, however, (perhaps under the influence of their French alliance,) they are rapidly returning to a better standard; and the pure, wholesome wines of France and Germany are supplanting the strong mixed wines of Portugal, Spain and Madeira.

By *mixed wines*, is not to be understood that mixture of the *must* of different grapes, or the mingling of different vintages of the same vineyard, which growers are at liberty to do, because there is no imposition in the practice, as the result in such cases is pure wine. But by that term, are included brandied and adulterated wines, and the whole class of fictitious wines now so generally consumed; and to which doubtless many diseases owe their origin. Gout and liver complaints, it is said, are almost unknown in countries where wine is drunk pure. Even the best Sherry and Madeira have more or less brandy added before the voyage hither. How much is introduced by the American Merchant is known only to the initiated. Chemistry proves that this brandy so introduced, never combines with the wine in the natural way. Hence a weak wine, strengthened by brandy, is found injurious to the constitution, while a pure wine containing even a larger portion of alcohol, but developed from the saccharine of the grape in Nature's own way, is perfectly harmless. How this difference between combined and uncombined alcohol happens, baffles the research of science to explain; but it is said that such is the incontrovertible fact.

Unfortunately the strong and sweet wines, to which the American taste inclines, are those most easily counterfeited; and our country is flooded with vile mixtures, both of foreign and domestic manufacture, of every description. Cette, Marseilles, Bordeaux, and Lisbon are the great laboratories of artificial wines; though even England, where not a pint of grape wine is grown, makes every species. Cette, however, is the universal wine factory *par excellence.* There every class of wine is imitated; and if a blight were to fall upon all the vines of Europe, Cette would not permit the world to know it, from any diminution in the supply of their products. Vegetation has been exhausted, and the bowels of the earth ransacked to furnish trash for this quackery: and within a few years past, it has been discovered that even the *laughing gas* (protoxide of nitrogen) is introduced into the Champagne supplied by those artificial wine establishments. Brandy and sugar are, however, the great masks, under which the base business is carried on: and the United States is the great market for this strong and sweet trash.

> "To the sewers and sinks,
> With all such drinks,
> And after them tumble the mixer!
> For a poison malign
> Is such Borgia wine,
> Or at best but the Devil's Elixir."

So sings Longfellow, in a fine lyric which he has recently composed, in praise of Catawba wine; and such I hope will be the unanimous verdict of our people.

Rumor says our Carolina wine-growers, to please the prevailing taste, brandy and sugar their Scuppernong *rather extensively;* and that by so doing they maltreat the product of a very promising wine-grape. It is to be hoped that the growers of the Catawba, will continue to offer it pure and unmixed with anything whatever, until a taste for it generally obtains. It is a fruity, vinous and durable wine, with strength enough to live for years without the addition of brandy. If not sweet enough to suit the present taste of the country, let the consumer himself dulcify his glass, and drink with the confidence that he is imbibing the pure blood of a noble native grape. It may be somewhat rough to the palate, when young, but it will

mellow and soften with age. With a little sugar and ice, he may convert it into an inimitable *Cobbler*, a draught which, unlike its long known Sherry namesake, will cheer and strengthen him without injury. I learn that there is no demand among your wine merchants for the Still Catawba—that, of the Sparkling but little is sold; and that "Catawba Cobblers," deservedly a favorite beverage in the West and South, are unknown in the Monumental City. I fear there is rather too much Cette and Lisbon in its cellars. Hence the necessity for that Native wine party, suggested to you upon a former occasion, and for which I again invite you to raise the banner. The veterans Longworth and Buchanan (Robert—though even *James* may perhaps be enlisted, after he has disposed of the Kansas and Utah outlaws,) shall lead the column against our *insidious foreign foes*. "Dufour" (peace to his memory) shall be our watchword—"Adlum for Catawba!" our battle cry: and if, like the Knight of La Mancha in his attack upon the wine-skins, we but succeed in spilling the blood of the enemy, to the last drop, we shall deserve, at least, to rank as conservators of the public health; and Longfellow, who has nobly earned the Laureateship of our party, will commemorate the victory in heroic numbers.

It has been more than once suggested to me, during the progress of my vine-planting here, that possibly, after making the wine, I might find myself in the position of the individual who won the elephant at a raffle. But as I happened to know something about this elephant, I took care to provide suitable accommodations for him, in the shape of a good cellar, where I know he will thrive and do well, until disposed of. But the wine-growers of the West seem to have experienced no such difficulty as that anticipated. There the demand has kept pace with the supply. In a journey through Ohio last summer, I found that the Catawba of even second class vineyards, that is, wine made in a small, careless and inexpensive way, commanded $2 per gallon, and was scarce at that price. A gentleman engaged in the wine business, expressed to me his fears that the great and increasing demand for the article would induce some unscrupulous persons, who care nothing about establishing a character for their wine, to adulterate it. The only remedy for this evil, is to buy from reliable dealers, and, when possible, from the grower himself.

My vintage last year was a small one, but of good quality. The wine is, of course, not yet ripe, and is still in wood, though drawn from the lees. But as I desire to make some changes in my cellar, which will render the removal of the casks necessary; and as some of your readers may wish to regale themselves and friends with the pure, pleasant and wholesome summer drink before mentioned, (and for which young wine is preferable to old, besides being cheaper,) I send you an advertisement of it, which please insert in the Farmer. The price is the same which has been established in Cincinnati, for wine of the last year, (1857) as I observe from the New York "Wine Press."

We have now, my friends, had a long talk about wines and vines. When I sat down, I intended to tell you of my planting and progress at Severn Side, and will, perhaps, do so at some other time, if you do not object to "a little more Grape."

Very truly, your WELL WISHER.

[For the American Farmer.]

CULTIVATION OF THE CORN CROP.

ROCK SPRING, Louisa Co., Va.
February 18, 1858.

MESSRS. EDITORS:—As the season for the preparation of land for corn has arrived, I have concluded to give you my method of cultivating the crop. It is useless for me to say much about the value of the corn crop. I consider it the most important one that is cultivated at all. It is true that it does not bring the money all in a lump, as some other crops do, but when we consider that it sustains both man and beast, and that the improvement of our land depends in a great measure on the manure made from the offal of this crop, its importance cannot be doubted. All land intended for corn, unless very rich, should be well manured. We farmers (myself, of course, included) cultivate too much poor land in corn. We plow up whole fields of such land, manure but little, cultivate badly, and when we look over our fields, nubbins, hosts of nubbins, stare us in the face. I believe that if we would plow up half the land, make double the quantity of manure, and cultivate well, our crops would be doubled.—Thanks to the American Farmer, some of us are getting on the right track. I begin in the fall, after seeding wheat and carry out every thing that can be found. Stable manure, scrapings about wood-pile, bark yard and quarters, ashes, hen manure, tobacco stalks, and every other thing that has any strength, is hauled out, and spread at a time of hauling on land intended for corn the next season. In winter or early spring, when not too wet, the field must be well plowed, just as deep as two strong horses can do it, (our sandy land not requiring three.) Deep plowing not only keeps the land moist, and enables the corn to take deep root, but is also very improving to the soil. The manure from the stables is carried out as fast as it can be made, and spread on the plowed land. In spring, when the weather opens, and working time comes in earnest, the manure from the cattle yard is all carried out and spread evenly over the field. This should be done when the weather is dry, as the land will not be injured, and there will be less water in the manure.

The whole field must now be well harrowed with heavy drag harrows; this mashes the clods, if any, breaks the turf to pieces, and incorporates the manure with the soil. I have been ridiculed by my neighbors for this—as they call it—unnecessary work. They prefer rough preparation, because they can more effectually smother the young grass at the first working. I prefer fine tilth, because it puts the soil in a condition to receive the little rootlets of the young corn, thus promoting its rapid growth. They contend that grass grows faster on a smooth surface. I contend that the young corn is a coarse grass, and if one kind grows, the other will be very apt to do the same. The next thing to be done, will be to bring on the double plows again. The land must now be thrown into lists, five feet apart, two furrows to the list. This is done rapidly, and leaves the land in beautiful order. It throws the soil together, raises the rows a little, so that the seed, when deposited, being more exposed to the sun, will soon germinate. I find the above method far preferable to flat culture, or planting in rows opened through the harrowed land. Corn planted

lists takes a better start, grows faster, and is more easily worked, than that planted on a level. The double plough leaves a furrow on each side of the row, in which a steady horse will walk all day, and not injure the young plants. The listing may be done several weeks before the time of planting.

As I cannot make manure enough to go over all the land, the following compost should be made: To each load of rich earth from the woods or rocky thickets, add one bag of Peruvian or Reese's Guano, three hundred pounds of plaster, and all the brine and refuse salt about the meat-house; the whole to be thoroughly mixed and shoveled over several times, before it is used.—About this time the premises should be again scraped, and the scrapings carried out. When it is time to plant, light harrows should be run over the lists, pulling them down a little, and getting out the coarse manure thrown together by the plows. The lists must be opened with a shovel plow, with a colter before it, and from 3 to 4 grains of corn dropped, by the most trusty hand, at every step of three feet. When this is thinned out, and it ought to be done before it is hand high, (if there is no appearance of wire worm) it should stand two stalks to the hill. I omitted to state that a one horse cultivator follows the dropper, covering the seed about two inches deep. Each hill on the land not manured, (and I have treated my whole crop, rich and poor, in this way,) must receive as much of the compost above described, as can be held in one hand. If the land is poor, the corn must stand one stalk in the hill, two feet apart. No person who has never tried this compost in the hill, has any idea what a start it gives the crop. Many farmers put a small handful of corn in the hill, and suffer it to get knee-high before it is thinned. This is very injurious; the stalks become spindling; the roots of those to be left in the hill, are necessarily torn to pieces, and the growth is checked for at least a week or more. The best time to do this work is when the ground is wet. I find that I am getting on rather too fast. As soon as the corn gets out of the ground, it is a good plan to run over with the hoes, and give it a slight weeding; if it be only two licks to the hill, it will greatly benefit the plants; it loosens up the earth around them, keeps the land moist, and destroys what weeds or grass may have sprung up. This work is very soon done, the hands going nearly as fast as they can walk. At the next working, a turn plow with bar next to the corn, is used; this is followed directly by another plow, with mould-board next to the corn; the furrow made by the first plow, prevents the corn from being covered up by the second; if the last furrow be run by a careful hand, but little hoe work will be necessary. After I get over in this way, the plows return again to the beginning, and plow out the rows in full. Before this is done, from fifty to seventy-five pounds of Peruvian or Reese's Guano should be sown broadcast along the rows, on each acre of the land not manured. This plowing leaves a furrow in the middle of the rows, which must be levelled; this can be done with one stroke of the cultivator. This I consider important, as it enables the roots to meet across the rows, prevents the hot sun from shining on the sides of the rows, and puts the land in a better condition to receive a crop of small grain. By the above application of guano, land that would bring one or two barrels to the acre, is made to produce five or six. I intend this year to increase the quantity of guano, and will give you the result. I have found by experience that the working of corn after the roots have run out into the rows, is very injurious, and should dry weather succeed, the crop will be seriously injured. The crab grass and fox tail, that makes its appearance about the time that the corn is in silk, prevents the land from being washed by the August rains, and also furnishes food for the chinch bug. After the corn gets hard, or when the shuck on the ear turns yellow, the fodder must be stripped from the stalks, tied up in bundles, and hung by the slips (not the ears) on the stalk. After hanging two or three days, if the weather is fair, it must be taken down and put in shocks. In three or four days it will be seasoned, and ready for the stack. The gathering of the bundles, shocking and stacking, can be done at night. The tops should be cut while green, set up around the hills, and secured near the top with strong white-oak splits. At the proper time they should be hauled together, and stacked around a frame of rails, in the old-fashioned way. This makes a fine place in which to store away the shucks and straw, to be fed out when the ricks are frozen and covered with snow. If I find that I cannot save all the fodder, the pulling is stopped, and the balance is cut down and shocked in the same way that the tops have been. Many farmers consider the pulling of fodder a poor business, and I know that the hands could be more profitably employed in the tobacco, but as hay is scarce, and being a lover of good fat stock, I pull and save all that I can. The corn cut down at the ground should be shucked first. The ears of the balance may be gathered, leaving the stalks to be hauled, when convenient, to the farm pen. The corn must be dried in pens, before it is housed.

Thus, Mr. Editor, have I given you my method of raising the staff of life. If you think it worthy a place in your valuable paper, you can insert it; if you lay it "on the table or under the table," I shall still continue a subscriber to the American Farmer. Respectfully,

H. G. Hiter.

THE POLICY OF FARMERS AND PLANTERS.

The following letter from one of the most esteemed planters of the State, was not intended for publication, but to suggest to us to take the subject in hand, editorially—therefore, omitting the signature, in the absence of permission to give it, we think we cannot do better than publish the letter for the consideration of our readers. Our correspondent will see, however, that we had incidentally in another place, touched upon the subject matter of his letter, prior to its reception.

Near Chaptico, Md., March 12th, 1858.

To the Editors of the American Farmer:

Gentlemen:—In the March number of your most valuable paper, the American Farmer, you announce that you have succeeded in procuring two bushels of the Peabody Corn, and propose to distribute it amongst your patrons, at the rate of one pint each. This gives to the farming community another strong proof of the deep interest you take in their affairs, and your readiness to avail yourselves of every opportunity that presents itself of

promoting their welfare; a characteristic of but few of the presses in our country; they mostly feel interested for the commercial and mechanical interests—they are more immediately in contact and association with those interests—and, as a matter of course, feel more for them, and put themselves to but little trouble to inform themselves of the importance of the great interest of every country and of the dependance of every other upon that of agriculture. Be so good as to leave with Messrs. Penn & Mitchell one pint of the Peabody corn, and request them to pay for it.

I fear the farmers and planters have gloomy prospects before them. Their staple crops for sale, tobacco and wheat, are going down below the remunerating point, when we consider the high prices of labor and manures. I think you would add another to the many obligations which the farmers and planters are under to you, by examining into this condition of things, and suggest such plans as you may think best calculated to ward off impending difficulties. The old rule amongst farmers and planters will not do—that of increasing the production of a commodity when it is falling in price. The wiser course would be to go in the other direction, and lessen the amount of product until they bring it to range in some proportion with the demand; this course would have a tendency to render prices more steady and likely more remunerative to the producer; some consideration of this sort addressed to tobacco growers would, I think, be advisable. As regards wheat, it is one of the necessaries of life and ought to be produced as largely as it can be without serious injury to the grower, which was the case last year. At seeding time 1856, wheat was high, the farmers expended large sums in buying manures, and hiring hands to put the crop in, in time, expecting at least 1.50 or 1.60 for the product per bush.—but in place of that sum, which would have paid pretty well, many of them did not realize more than $1 to $1.10 per bushel, nett, which was a losing business.—Wheat is a precarious crop; a partial failure will always raise the price, that is, if you can convince buyers that such things as failure in the crop does sometimes occur. The tobacco crop is much more certain with us, and we can't calculate upon accidental failures for an improvement in price.—Tobacco is a fancy article and one that is not necessary to the sustenance of man or beast, consequently not generally used by all classes, therefore cheapness of price does not increase consumption much, and when the supply gains upon the demand, prices always go down until it gets so low that the producers are compelled from necessity to leave it off, after having paid dear for their experience. It would be far better to curtail at once so as to make no more than is necessary to supply the demand, then it would pay them for making it.

Beef, pork, &c. would be better articles to produce at this time, the present prices pay well, grain being cheap. The raising of stock, too, would enable us to raise larger quantities of manure on the farm, thereby saving much money that is now spent in guano, and so far as my experience goes, it teaches me to prefer well made compost manure, such as can be produced on any farm, to any fertilizer we can buy.

I must beg of you in conclusion, to excuse the freedom I have used in making these crude suggestions to you. The power which the Farmer wields over the agricultural community of our country is the only one that could hope to be listened to with attention upon the topics I have mentioned. If they were suggested under the editorial head of the Farmer, I believe they would have great weight and much good.

MANURING.

To the Editors of the American Farmer:

The result of an experiment on manuring, stated in an article by "A Chester County Farmer" in this March number, agrees exactly with what I said in the December number over 'G. M. E.' I fully endorse all that the writer has said in communication. But whether the opinions the expressed are sound or not, I am surprised that you should publish the experiment of Lord Kinnaird as an "off-set to it."

You are well aware that in England it has been a general practice to keep all the manure from the stables and yards, under cover, indeed they do not have cow yards, as we understand them. The experiments of Lord Kinnaird appear to have been made with manure kept under cover free from exposure to rain, and, manure exposed to the weather. He does not say that it was spread upon the land any time before planting, and, there left uncovered, therefore we must suppose that the uncovered manure was in a yard or pile exposed to rains and the consequent leaching and drainage which it must have undergone, and, to that extent, its value diminished, as was shown in the crops. Now, suppose that called the uncovered manure, had been hauled out directly from the stables, spread upon the ground, and, remained there say, three months before being plowed under, would it not produce more grain than if plowed directly under,—my opinion, founded upon experience and observation is, that it would; but, whether caused, as one chemist has told me, by the moisture rendering the silicates soluble, or as another says, by the increased production of organism, or, as some of us farmers say, by the fertilizing properties of the manure being made by the rains to pass into the soil or mould and there held ready, and prepared to be received by the plants, is a question I may not be able to answer.

Respectfully, yours,

G. M. ELDRIDGE.

Cecilton, Md., March 8th, 1858.

A WORD TO Mr. TAYLOR.

To the Editors of the American Farmer:

GENTLEMEN:—I do not intend to continue the discussion in reference to the origin of the hard guano of the Carribbean sea, and should not have referred to it again, had I not seen, by his last communication, that Mr. Taylor has misapprehended a remark of mine in reference to the analysis of the concretion under a roost at Centinella.

I regret exceedingly that he should have for a moment supposed that I designed casting any reflection either upon the accuracy of his analysis or the care with which he selected his specimens. I have every confidence in his skill and am satisfied that he used all possible caution. All that I intended to convey in the remark alluded to, was my conviction that no unexceptionable sample could have been obtained by any amount of care, and if any other impression has been made upon the minds of your readers, I have been unfortunate in the selection of my phrases, and take this opportunity of disclaiming any other meaning than that just stated.

Very respectfully yours, &c.,

A. SNOWDEN PIGGOT.

No. 40 BOLTON STREET, *March 17th*, 1858.

The following paper, emanating from an English Company, has, at our request, been furnished us for publication in the *American Farmer*, by the gentleman to whom it was addressed. The matters contained in it, we deem of much importance, and the analysis of the distinguished chemists of England, will show the ingredients of this fertilizer, the wonderful effects of which has attracted much attention in that country, and is having the effect of drawing off much of the Phosphatic Guano, of which it is principally composed with the ammoniacal, that has hitherto found its way to this country. It sells very high in England, say about $75 per ton. There is none of it on sale in the U. States, but a small lot has been sent here for distribution to test its effects on our soils and crops.

PHOSPHO-PERUVIAN GUANO COMPANY.

Sir:—Your attention is respectfully invited to the annexed analyses and reports on the guano offered by the above company, and especially to the fact therein shown, that it contains in a given bulk, in addition to sufficient ammonia and as much neutral phosphates as are usually found in the best guanoes a greater amount of phosphates in a soluble form than is found in any other manure, natural or artificial, yet offered to the public. Phosphoric acid is now admitted by the best agricultural authorities to be the one thing above all others necessary to be returned to the soil, to enable it to produce an unfailingly good crop without permanently impairing its general fertility. In this guano we have it presented in the form best adapted for such a purpose, inasmuch as experience has proved that soluble phosphates possess *five times* the activity of ordinary bone-posphates, from their whole substance being at once available for the nutrition of plants, instead of, as in the other case, remaining passive, until the acids in the soil, and the slow process of nature complete their disintegration.

As the company have only a limited quantity of their guano for sale here this season, they are anxious to have some of it tried in every district, and also that such as try it, may favor them through their agents with the earliest information, as to how far it has practically borne out the anticipations of those who have scientifically examined its constituents, with a view to enable them, and their district agents, to make early arrangements for an adequate supply for the following year.

Owing to the rapidly diminishing supply of guano from the Chincha Islands (Gibbs' imports) its yearly advancing price, and the exhaustive effects produced by its too free application to the land, from its possessing too much ammonia in proportion to its phosphates, it becomes a matter of great public interest to promote the importation of a guano calculated to excel it in practical use, and especially to landholders who would desire to encourage a system of cultivation, at once immensely remunerative to the farmer and permanently improving to the land, which might yearly receive from the application of Phospho-Peruvian Guano more phosphates than the crop would deprive it of.

The price is £——— in Liverpool, shipped in linen bags branded "PHOSPHO-PERUVIAN GUANO COMPANY." The following chemists have been appointed as public referees to arbitrate any dispute that may arise as to the sales of dealers being free from adulteration, viz:—Professor Way, of London, Dr. Penny, Andersonian University, Glasgow, Dr. Voelcker, Royal Agricultural College, Cirencester, and Wm. Herapath, Esq, M. C. C. S., of Bristol. All local Merchants and dealers are required to give an assurance on purchasing, that they will sell it to consumers genuine as received.

WM. DIXON & Co., Liverpool.

ROYAL AGRICULTURAL COLLEGE,
CIRENCESTER, Dec. 30th, 1856.

GENTLEMEN:—In handing you a copy of a careful and minute analysis of a sample of Phospho-Peruvian Guano, which you sent to me for examination, allow me to offer a few remarks respecting the value of this fertilizer.

You will perceive by the enclosed analytical results that the sample examined by me contains, in addition to about 21 per cent of insoluble phosphates, and a useful proportion of organic ammoniacal matters, a higher per centage of soluble phosphates and free phosphoric acid, or more properly speaking, phosphoric acid in union with potash and soda, than any description of guano, and most samples of super-phosphate and similar phosphatic manures.

It is indeed a most valuable manure, the importance of which to the agriculturist of this country can hardly be over estimated, inasmuch as its high state of concentration, the form in which the phosphates exist in it, and the skilful blending of these valuable constituents with others no less desirable for promoting a luxuriant vegetation, as well as its dry pulverulent condition and peculiar appearance, stamp it with characters not possessed by any other manure with which I am acquainted. Compared with bulky manures, such as are generally sold as Super-Phosphates, inferior guanos, &c., the Phospho-Peruvian Guano, I have no doubt will enable farmers to realize a considerable saving in purchase money, carriage, labour, &c. arising from the concentrated nature and pulverulent dry condition of this manure.

It deserves to be more generally known that Peruvian Guano (Gibbs) except in particular cases, is not the most desirable fertilizer that can by itself be applied to root crops, since it contains too much ammoniacal organic matter in relation to phosphates. The Phospho-Peruvian Guano, being much richer in phosphates and not containing so much ammonia as to cause too luxuriant a development of leaves at the expense of the bulb, is much superior to Peruvian Guano (Gibbs) as a manure for turnips, Swedes mangolds and potatoes, and I have indeed no hesitation in expressing the opinion that for root crops the manure which I analysed for you is by far the most valuable fertilizer, whether natural or artificial, which as yet has been offered to the public. J. CHR. AUG. VOELCKER.

COMPOSITION OF PHOSPHO-PERUVIAN GUANO.

Moisture,	13.67
*Organic matter and Ammoniacal Salts,	11.97
Soluble or bi-phosphate of Lime,	12.58
equal to Bone Earth rendered soluble,	(19.62)
Insoluble Phos. of Lime, (Bone Earth)	21.46
Hydrated Sulphate of Lime,	26.74
Alkaline Salts,	7.65
containing Phosphoric Acid equal to	(4.01)
Soluble or bi-phosphate of Lime,	(5.57)
Insoluble Silicious matter,	(5.93)
*Containing Nitrogen 2.89, equal to Ammonia 3.51.	100.00

This manure contains

Bone Earth rendered soluble by Acid,	19.62
The per centage of Phosphoric Acid in Alkaline Salts is equal to Bone Earth rendered soluble by Acid,	8.63
Insoluble Phosphates,	21.46
Total amount of Phosphates calculated as tribasic phosphate of Lime,	49.71

J. CHR. AUG. VOELCKER, PH. DR.

Professor of Chemistry in the Royal Agricultural College, Cirencester, and consulting Chemist to the Bath and West of England Agricultural Society.

R. A. COLLEGE, CIRENCESTER, *Dec. 30th*, 1856.

BRISTOL LABORATORY, *January 20th*, 1857.

Gentlemen:—I have submitted the sample of Phospho-Peruvian Guano to Analysis, and the following are its constituents per cent:

Water,	8.80
Organic matter containing Ammonia,	20.74
Soluble Phosphate of Lime,	16.40
equal to Bone Earth made soluble,	(26.08)
Basic Phosphates of Lime and Iron,	25.04
Sulphate of Lime,	23.62
Silicious matter,	5.40
Nitrogen per cent 3.25,	100.00
equal to Ammonia 3.94.	

This will be found a very excellent manure in which the soluble Phosphate (Super-Phosphate) is found in greater proportion than is usual, and almost equal to the very highest.

I remain, gentlemen, yours, respectfully,
WILLIAM HERAPATH, M. C. C. S.

ANDERSONIAN UNIVERSITY, GLASGOW, 22d *December*, 1856.

PHOSPHO-PERUVIAN GUANO CHEMICAL ANALYSIS.

Water,		9.33
Ammoniacal Organic Matter,		12.45
Bi-Phosphate of Lime,		19.00
equal to soluble Phosphate,		29.74
Insoluble Phosphates and Sulphates of Lime and Magnesia, consisting of		
Phosphoric Acid,	11 17	
Sulphuric Acid,	15.43	50.24
Lime and Magnesia,	23.64	
Sulphate of Potash,		1.00
Sulphate of Soda and Chloride,		2.12
Sand, &c.,		5.86
		100.00

Ammonia (free and latent) equal to 4 per cent. corresponding to 17.65 of Crystalized Sulphate of Ammonia. (Signed)

FREDERICK PENNY,
Professor of Chemistry, &c., &c.

15 WELBECK STREET, LONDON, *December 30th*, 1856.

Gentlemen:—I beg to enclose my analysis of the samples of your Phospho-Peruvian Guano.

From the large quantity of soluble phosphates as well as ammonia in it, I have no doubt it would prove to be a very valuable manure, more especially for green crops,

I am, gentlemen, your obedient servant,
J. THOMAS WAY.

THE ANALYSIS OF A SAMPLE OF PHOSPHO-PERUVIAN GUANO.

Moisture,		10.20
*Organic Matter and Salts of Ammonia,		25.80
Sand, &c.		5.78
Bi Phosphate of Lime		19.34
equal to soluble phosphate,	28.55	
Insoluble Phosphate or Lime,		21.15
Hydrated Sulphate of Lime,		7.08
Alkaline Salts, &c.,		10.59
		100.00

*Containing Nitrogen 3.17 equal to Ammonia 3.

J. THOMAS WAY.

December 29th, 1856.

IMPORTED STALLIONS.

Our neighbors of Virginia, so famous in the old time for their fine horses, are going ahead in the improvement in the breed of this valuable animal so neecssary to the comfort of man. In our last (and present Nos.) we publish the advertisement of Mr. Dulany, offering his imported Scrivington for service this season. In our this month's advertising pages, will also be found Dr. J. R. Woods' advertisement of his imported Haveland, a Cleveland, and Scrivington, imported last Fall, which, the Southern Planter remarks, "is not so well known, but he deserves as much praise for his good points, as his owner does for his public spirit." Dr. Woods has also secured Napier, shortly expected to arrive, which is said to be the best Cleveland stallion in England; he has, we learn, been purchased at a high figure, a larger price having been paid for him than was probably ever before paid for one of the breed by any one in this country. We cordially unite with the *Planter*, in the testimony which is borne to the importers and their horses:

"We hope the public will not fail to second the efforts of the owners of these fine animals to improve the breed of our horses. There are many enough in each locality, now bred to worthless horses, to keep these good animals in full work; as in Albemarle, especially, which has tried the Morgan and wants something a size or two larger, certain will not permit Dr. Woods to lose money. Those who know him well, know that in the improvement of stock of all kinds, he sets a higher value on reputation than on cash."

MANURE HOUSE.—A correspondent in Pittsylvania, Va. asks for a plan for building a manure house, to be added to a stable or barn already built with directions about supplying it with water, when needed. We cannot lay our hands on any thing of the kind, in any of the books, but if any of our readers can furnish the necessary information, with drawings, we will most cheerfully publish it for the benefit of our correspondent, and no doubt that of many others also.

From Edmund Law Rodgers, Esq., of the House of Delegates, we have received copies of the State Chemist's Report.

MARYLAND STATE AGRICULTURAL SOCIETY.

Baltimore, March 16th, 1858.

The Executive Committee met pursuant to a call of the President. Present, Jno. Merryman, Esq., President, and Messrs. S. P. Smith, Frank Cooke, J. H. McHenry and C. Ridgely, of H.

The proceedings of the last meeting were read and approved. After which the President reported to the Board, the result of the application to the last legislature, for aid to the Society. That the Committee appointed to prepare a memorial and present it to the legislature, had performed that duty, but that after it had passed the House of Delegates, it had been lost in the Senate, for want of a constitutional majority.

Some conversation then took place upon the subject of the debts due by the Society, but no formal action was had thereon, further than an order, moved by Dr. S. P. Smith, of Alleghany, that 4-5 of the lumber of the amphitheatre, together with that of the refreshment saloons, be disposed of at public sale, and the proceeds thereof be appropriated to the payment of the debts of the society. The President and Messrs. McHenry and Ridgely were appointed a committee to carry the order into effect.

Mr. Cooke moved that the President be authorized to make such disposition of the grounds as he may deem proper, when not required for the purposes of the Society—which was adopted.

Mr. McHenry moved that a committee of three be appointed, to revise the constitution and by-laws, to be reported at the next quarterly meeting, which was concurred in, and Messrs. McHenry, Ridgely and M. T. Goldsborough, were appointed the Committee.

Mr. Cooke moved that the President be authorized to invite active members of the Society, representing the several interests connected with our Shows, to attend the meeting for forming the premium list, which was concurred in, and the Executive Committee then adjourned.

Test, SAMUEL SANDS, *Gen'l. Sec'y.*

FINE SHEEP.—We have seen an account of sale of 30 sheep, sold on 22nd January, by Shook and Crockett, Richmond, for Dr. John R. Woods, of this County. These sheep averaged between 164 and 165 pounds gross weight, and were sold at $7 per hundred, gross, thus bringing the handsome sum of $11½ per head. The lot consisted of old ewes and wethers, under two years old, and but for the condition of money matters, and the heavy decline in the meat market, the salesmen were confident they would have realized a higher figure for them; nothing but their superior size and quality sold them for such a price at present. With such results as the above, our farmers will be relieved the necessity of sending elsewhere, perhaps to some of our Northern brethren, for the best sheep to improve their flocks. Dr. Wood selects none but the best to dispose of as breeders, and sells them at prices not unreasonable, considering their quality.—*Va. Advocate.*

LARGE HOGS.—Mr. Frank Minor, of Ridgaway, in this county, butchered his lot of hogs, a few days since, numbering 104, and the average weight was 243 lbs. This average of a farmer's whole lot of 'killing' hogs cannot be beaten by even Augusta County. Can it Mr. *Spectator?—Ib.*

Our old friend, Col. J. Carroll Walsh, has recently taken charge of the editorial department of the "*Southern Ægis*," a spirited paper published in Bel-Air, Harford Co., of this State. We congratulate the Col. on his promotion to the editorial tripod, which his well known talents are calculated to adorn. In a late number of the Ægis, we find the following notices of our State College, and our humble self:—

"MARYLAND AGRICULTURAL COLLEGE.—We are highly gratified in being informed that the Committee of the Board of Trustees having in charge the selection of a site and the erection of the necessary buildings for this most excellent institution, are busily engaged in the discharge of their very responsible duties. It will not be long before the farmers and planters of the State will have an opportunity of placing their sons in a college where that most desirable object, the union of mental and physical improvement, will be attained, and, in addition to the ordinary collegiate studies, a practical as well as scientific course of instruction will be given in all that appertains to the practice and theory of Agriculture. The community have every reason to be entirely confident that the committee of the trustees who have the matter in care, will perform the requirements of their position in a perfectly satisfactory manner. It has been very fortunate that the distinguished agriculturist and talented and accomplished gentleman, Chas. B. Calvert, Esq., has consented to serve as President of the Board of Trustees. No man in the State is better fitted for the office, and none upon whom we could place greater reliance for the proper performance of the high trust confided to him."

☞The "Horticulturist," "American Farmer's Magazine," and "American Farmer," for the present month have been received, and contain their usual amount of instructive and interesting matter to the agriculturist. Our old and valued friend, the "American Farmer," the pioneer of agricultural journalism in this country, should be found in the homestead of every Maryland Farmer and Planter. We are pleased to see that it continues in all its pristine freshness and vigor. May it be many long years before "the *sands* of its life begin to run low." It is published monthly in the city of Baltimore by Messrs. Sands & Worthington, at $1 per year for a single subscription.

RURAL ARCHITECTURE.—Our pages for this month, are embellished with the plan of a beautiful country residence in the vicinity of Baltimore, built under the superintendence of Messrs. Thos. & Jas. M. Dixon, Architects, of our city, for Rev. Alexander Macklin, D. D. The drawings have been prepared, and the engravings made for the "*Farmer*," under the direction of the Architects, and we take pleasure in commending them to those gentlemen in the country who may intend to improve their farms, by the erection of dwellings or other buildings, feeling confident, that they will be able to render satisfaction, and that their work will be executed in a proper manner, and at a cost proportionate to the character of the buildings erected.

MIXED GUANOES FOR TOBACCO.

An intelligent planter in Amelia Co. Va., writes us for some of the California Guano, which, from the analysis, he thinks will be found more valuable for certain crops than the Peruvian, comparing favorably as it does with Peruvian in the quantity of ammonia, and being rich also in potash, soda and phospheric acid. The mixed Guanoes, he has experienced, to be more improving to the land, and except under some peculiar state of the season, more productive than the Peruvian, when applied alone to oats, wheat, corn and tobacco—the latter in a moist season, would push the plants forward, but in cases of drought, about the time of the shooting and tasselling of corn, a large stalk but indifferent ear is produced. As to its application to *tobacco*, he says:

"The Peruvian by itself on ordinary land, such as we generally have in this region, a light gray surface with a clay subsoil, when applied at the rate of 300 or 400 lbs. to the acre, will make its growth sufficiently large and leafy, but light and thin; with the addition of a light application of farm-yard or stable manure, pretty good crops may be realized. I think I have found considerable benefit to the land and a more permanent one by the use of a mixture of the Mexican and Peruvian in about equal quantities, and in the growth of the cereals, less straw, and a smaller stalk, and the grain, if not more, (as it sometimes is, especially in corn,) of better quality. The combination for the tobacco crop I consider of more importance, and my reason for thus thinking is in a great measure based upon the result of its effect upon my crop of the last year's growth; although a moderate one, it is notwithstanding a better one than usual for me, about 22,000 lbs. from 100,000 hills; and with the hope of making myself understood, I will detail from memory as well as I can, (for I kept no diary or memorandum book,) the preparation of the land, application of manures and culture, as far as may be necessary to bring into view what I wish in relation to the action of the combinations of Guanoes, and its effect on the plant. The land being of the quality as described above, was not fallowed until some time in the month of January; it was then done with a two horse plow, as deep as two good strong mules could well do it. In the month of April all the manure that could be procured from the stables, farm pens, wood-yards, &c., were hauled out. As soon as this was done it was scattered and immediately turned under (having previously harrowed the land) with a two horse plow; it was then nicely raked; it remained in this state until the latter part of May, when it was laid off in rows about 3½ feet apart, with a one-horse turning plow, which opened a pretty good furrow, in which was sown about 100 lbs. of Peruvian Guano by itself—and then was thrown up immediately over the guano a ridge or bed with the 2 horse plow, and then made into hills about 3 feet apart on the bed, (which I prefer to leaving the beds without being hilled, as it affords a much greater facility for the escape of the water, if the season should prove to be wet, thereby avoiding to a great extent the evil that might result by firing, as is almost sure to be the case, unless the surplus water can have a way of escape in every direction in which it can be obtained.) Having a good season in the early part of June it was planted; the stand was a good one. I would here remark, that the home made manures gave out after having covered a surface of ground only large enough for 70,000 hills, the remaining portion of land which was necessary for the 30,000 hills, (having no stable or farm-pen manure,) was prepared as the first and planted about the same time, with rather more Peruvian alone in the drill. The first thing done after getting a stand, was to run a harrow with three teeth over the field, followed by the hand hoes, who scraped around each plant lightly. At the second working the single horse turning plow was run with the bar next to the plant, and so as to throw the dirt from it; a hand followed and sowed in this furrow the mixture of Mexican and Peruvian Guano, about equal portions, and at the rate of 150 to 200 lbs. to each to the acre, upon which the dirt was immediately turned back; it was then hilled up by the hands—it grew off well, and continued to improve until it was about time for it to be coming into top, when a very severe drought set in, from which I suffered severely, and I have no doubt lessened the product several thousand pounds. At this trying juncture considerable benefit seemed to arise from the application of ½ oz. or a tablespoonful of sulphate of lime or gypsum to the bud of each plant; for notwithstanding the dry weather continued for five or six weeks, the plants maintained a deep, dark rich green appearance, but seemed to grow but little. After the accession of the rains, it improved rapidly and soon ripened up, being quite rich and heavy, and being the first rich and thick leaf that I ever made by the use of guano. I am, therefore, inclined to think a great deal of this result may be ascribed to the mixture of the Phosphatic and Peruvian Guano, especially when it is taken into consideration that the tobacco which grew upon that portion of the field that received no stable or farm-pen manure, was just as good in every respect as that grown on the manured portion. Hoping that a combination of properties well calculated to promote the agricultural interest, may be found in the California article, and wishing to make some experiments with it, I write for the purpose of requesting you to send me one or two tons, should you think, with me, that it is worthy of a trial."

CERTAIN CURE FOR FOUNDER.

As soon as you discover that the horse is foundered take him to the nearest branch or stream of water and tie him in it, standing in the water nearly up to his belly—his head being so high, that he cannot drink. If the weather is warm let him stand in the stream several hours, then take him out, rub his legs thoroughly to promote circulation, and again tie him in the water, if he is still lame. By repeating this process two or three times the horse will be effectually cured.

If the weather is cold when the horse is foundered, that is, if it is in winter, the horse must not be allowed to stand in the water more than about twenty minutes at a time, when he should be taken out and his legs rubbed diligently till they become dry and warm and the circulation of the blood made active, and this process must be repeated till the horse is cured, which will be, generally, within twenty four hours. This remedy will cost nothing, can do no possible harm, and will, in every instance cure, if the disease has not been of too long standing. Don't be afraid to try it.—*Valley Farmer correspondent.*

DEATH OF EDWARD P. ROBERTS, ESQ.

Just as our paper was being put to press, we received the melancholy intelligence of the death of EDWARD P. ROBERTS., Esq., very generally known as an assistant in the editorial department of the *American Farmer*, with some slight intermission, for a number of years, and also as a partner in the house of George Page & Co., manufacturers, of this city. He died at his farm in Patapsco Neck, on Monday morning last, from an attack of apoplexy, with which he was stricken down whilst riding in his carriage with his wife and daughter, on a visit to the farm, on the Tuesday preceding.—His loss will be severely felt by a large circle of friends, and by none more keenly than the writer, with whom he has been intimately associated in various ways, from earliest youth. In our next, a more extended notice of the deceased will be given. He was in the 66th year of his age, and leaves a heart-stricken widow, and several children—and it may be truly said, there never lived a more devoted husband and father, and sincere friend than the deceased.

NEW ADVERTISEMENTS.

We are again obliged to enlarge our borders for this month, to accommodate our increased advertising patronage. This is the season for farmers and planters to obtain their supplies of Fertilizers, Implements and Machinery, Stock, Seeds, and the various et ceteras which are requisite for their business for the ensuing year, and those having articles to suit them, are satisfied, from their experience, that they cannot reach those whose custom they wish to secure, better than by making known their commodities through the pages of the Farmer. Instead of 32, the number of pages called for by our terms, as the required quid pro quo, for the immortal dollar, it will be seen that we this month send forth 76 pages, including the Cover.

Dr. Jno. R. Woods, of Albemarle, Va. offers his imported horses Havelock and Napier for the season. Mr. Dulaney of same state, his imported Scrivington.

Jas. T. Earle, of Queen Anne's County, Md. offers the services of Morgan Black Hawk, purchased of Mr. Williams last year; he has taken the highest premiums at our two last State Shows as a stallion for quick draught.

Jas. N. Goldsborough, of Talbot county, Md. also stands his Sebastopol, purchased of Mr. Jno. Ridgely of Hampton, which was noticed with much favor at the National Show, at Philadelphia.

J. Hy. Greenway, Balt. is the Agent in Baltimore, for Allen & Needles' Superphosphate, a manure which is well reported of in some portions of our own and neighboring States.

L. Giddings, of A. A. Co. Md. offers some of his pure Catawba Wine, made by himself, and recommended for invalids.

R. T. Underhill, Croton Point, N. Y. offers Grapevines, of the Catawba and Isabella varieties, and strong inducements to those desirous of going into the culture of the grape.

Fenby & Asbury, Philadelphia, are agents for Bechtel's Fertilizer, or Mineral Compost.

Peter Zell & Son, Baltimore, have a general assortment of Guanoes, of every description, and other Fertilizers, and are dealers in grain, &c.

Wm. W. Dungan, and Abm. B. Patterson, Baltimore, both offer the Esmeraldo Guano.

Richard Middleton, Balt. Warner's Pump, and gives testimonials of its value from those who have used it.

Wm. H. Emory, Baltimore, Grain and Commission Merchant, offers his services to farmers. Also, Wm. C. Hopkins transacts the Grocery and Commission business.

Gabriel D. Clark, Baltimore, keeps all kinds of Watches and Jewelry.

Linton's Iron geared Threshing machine, is offered in Baltimore; it took the first premium at the last Show of the Maryland State Society.

E. M. Bosley, Light street wharf, Baltimore, has a large and well selected stock of Hardware, which he offers to farmers and planters intending to build. It would be well for those wanting such articles, to call and examine his goods and prices

Wm. H. Smith, Richmond, Va., will offer at public sale on the 10th of June, a large tract of land in Caroline Co., Md. which is well worthy the attention of capitalists, and others wishing to make a speculation, which in a short time must result advantageously, the terms being very liberal.

J. L. Darlington & Co., West Chester Co., Pa., have a very large stock of Fruit Trees, Shrubbery, Hedges, Flowers, &c. at their celebrated Morris Nurseries—We hope this, and all other Nurseries of character may be amply sustained, this year, as we feel fully confident every farmer and planter will find it to his interest to spend liberally for such improvements for their homesteads.

Ehrman & House, Baltimore, are engaged in the Produce and Commission business, and offer their services to the farmers and planters to sell their produce, and to purchase for them their supplies.

R H. Evans, Baltimore, offers his farm 10 miles from this city, which offers many advantages to an enterprising man—access to it may be had 8 times a day by rail road.

Jno. H. Mifflin, Philadelphia, the Agent for Hare's celebrated Blood Manure, in consequence of the reduction of guano, has also reduced the price of this manure.

J. J. & F. Turner, Baltimore, furnishes still further testimony in favor of the De Burg manure, from well known respectable farmers and planters who have tried it—the only sure test.

Mr. Cathers, of Baltimore, furnishes additional evidence of the value of his Cancer Remedy, and it will be seen by the report from a committee of physicians in the last legislature of Md. that he is specially authorized to practice in the same manner with other physicians.

Geo. S. Bandel, Baltimore, has the Wyandotte Corn of his own raising, and gives certificates from a number of his neighbors and others, of its prolific character—It is certainly an extraordinary production, in its appearance, from the stalks we have seen.

W. W. Dingee & Co., York, Pa., offers Pelton's Thresher, which received the first premium at Md. State Show, last fall, also his Improved Railway Power and Thresher, and other valuble machinery.

R. T. Elkinton, Baltimore, is the agent for McCormick's Reaping and Mowing machine, which has acquired world wide renown from its performances at Chrystal Palace Exhibition, London, and World's Fair, at Paris, &c.

R. Sinclair, Jr. & Co., Baltimore, with their usual large assortment of Implements and Machinery, embracing everything required by the farmer and planter, presents their celebrated Patuxent Plow, as also every other description of Plows, Harrows, Horse-Powers, Drills, Reapers, Mowers, &c., &c.

John S. Tough, Baltimore, is the general agent for Ray's Reaper and Mower, and gives strong assurance, that those who try this machine, will not be disappointed; he gives sundry testimonials from respectable farmers of Md., who used it last year.

Robt. Turner, Baltimore, is one of the most extensive dealers in Peruvian Guano in this city, he keeps also on hand a general assortment of other fertilizers, including Coe & Co's. Super phosphate of Lime, for which he is agent—also Field Seeds, &c.

N. E. Berry, Baltimore, keeps Salt for Agricultural purposes; in addition, N. J. Superphosphate of Lime, California Guano, &c.

Cottingham & Harding, Baltimore, offer a large assortment of Plows, Cultivators, Harrows, &c., &c.,—also Reaping and Mowing machines, a new Tobacco Weeder, and sod Plow, Horse Powers and Threshers, corn mills and crushers, field and garden seeds, &c.

Samuel Glenn & Bro., Baltimore, keep a general stock of Hardware, embracing every article in that line, and will fill all orders with promptness and at the lowest rates.

R. R. Griffith, Baltimore, as agent, offers to supply Guano and Phosphates, and all other Manures, usually sold in this market.

Thos. Norris, Baltimore, is agent for the sale of Manny's Combined Reaping and Mowing Machine, with Woods' Improvement, which took the highest prize at the Md. State Society's Trial at Chestertown, last summer, and also at Syracuse, N. Y. He has also a general assortment of Implements and Machinery, and Garden and Field Seeds.

The Philadelphia Guano Co., have annexed to their usual advertisement, the prices of the several Guanos.

Wm. Whitelock, Baltimore, has removed his establishment to South st., where he keeps every variety of Guano, Superphosphates of his own Manufacture, and other Fertilizers.

Obed Hussey, Baltimore, the old Pioneer in Reapers and Mowers, puts forward his claims to be remembered in the coming harvest—He thinks he can supply machines equal to any in the field, and his long experience and services in this particular line, entitles his claims to the highest consideration.

C. S. Wainwright, Rhinebeck, N. Y., offers his catalogue of Devon Cattle, which with prices, will be sent to applicants.

Jas. Whiting & Co. Baltimore, importers and dealers in foreign and domestic Hardware, offers a very extensive stock, embracing every article furnished by the trade; also the Patent Button Chain Pump.

Jno. S. Reese & Co. Baltimore, renews his advertisement of Manipulated or Phospho-Peruvian Guano; also offers Peruvian and Mexican guano.

Jno. B. Peyton, Baltimore, attends to a general commission and produce business, and supplies Guano, Bone-Dust, and all other fertilizers.

Clement Warns, Elk Ridge Landing, offers Chester Pigs, Fowls and Bee Hives.

At the "Farmer" office can be had all kinds of guanos, and fertilizers, as usual, which will be furnished for farmers and planters, and guaranteed from the most reliable sources—Also all kinds of live stock, including a Jennet, also Fowls, Pigeons and a half Durham cow and calf—Peabody, Wyandotte and Camanche Corn, &c.

Burns & Sloan, Baltimore, have a very large stock of lumber of every description, and furnish Doors, Sash, Frames, &c.

Cornell & Dorsey, Baltimore, are agents for Coe & Co's Steamed Bones and Phosphate of Lime.

James Baynes & Son, Baltimore, are the only house engaged solely in the Wool trade.—Farmers having Wool for sale, should give them a call.

Samuel Hunt, Baltimore, renews his call upon farmers, planters and others, to his beautiful stock of Saddles, Harness, &c. The most fastidious cannot fail to be pleased.

John Kettlewell, Baltimore, also renews his appeal in behalf of his Manipulated Guano; the evidences we present this month of the value of this mixture is very conclusive to our mind.

Hamilton Easter & Co. Baltimore, at their Marble Building, the pride and ornament of our city, are now prepared with their Spring supplies of Dry Goods, in every department—it's worth a visit to the city to see this beautiful establishment and still more the beautiful belles who daily throng its rich aisles.

P. Malcom & Co., Baltimore, one of the most extensive dealers in the article, offer Guanoes of every description, beside Seed Peas, Corn, Oats, &c.

E. Whitman & Co., Baltimore, offer their new Horse Power, as well as several others, and the Iron Cylinder Thresher, together with a great variety of Agricultural Implements and Machines, Seeds, &c. &c.

JAVA BARLEY, MUSK MELLON AND SQUASH SEED.—We noticed in our last the reception of seed Java Barley, &c., from Thomas H. Deas, Esq., Charleston, S. C. We have since received from Mr. D., a few quarts of the Barley; also some of the Camanche Corn, and the Peabody Corn; of this latter, our supply from Mr. Peabody is exhausted, but this is identical with it, from seed obtained from Mr. P. Mr. Deas says:

"I know not how much ground a quart of Barley seed will cover, but I know of the rest. Chinese Cane, 2 feet by 1, Peabody and Camanche Corn 2 feet by 4, *one grain* in each; one quart will be enough for an acre, if the first sowing stands—The Chinese Sugar Cane transplants easily; it would be advisable to put 2 or 3, reducing the stand to one plant, and those taken up will fill missing hills.

Of the Barley I have already sown it has come up freely, so if any one wishes, he can sow what I have done 2 feet by 6, to allow of its succouring. Five by four gives 2,178 hills to the acre; a quart of corn 2,200 to 2,300 grains.

Presuming you have either a garden or farm send for your own sowing a few seeds of the musk melon, much liked here, also of the crooked neck squash, which I have cultivated for upwards of twenty years, and is yet a favorite; it has on my

plantations driven out the common pumpkin. I have had them, from stem to blossom, almost touching, to measure four feet around the outside of the curve; but let them speak for themselves. If such seeds would sell with you, if spared, I would select none but the best; they hybridize, therefore, no other kind is allowed to grow on the farm. They are sown in hills, 8 by 8 feet, leaving 2 plants in each. Application from far and near is made for them, and freely met, as nothing gives me more pleasure than the distribution of seed. At this time I am doing as you do, to the poor near our city, of the Chinese Sugar Cane Seed."

New Publications.—We have received from the publisher, A. O. Moore, New York, a copy of a most interesting and valuable work on "*Hedges and Evergreens*," being a complete manual for the cultivation, pruning and management of all plants, suitable for American Hedging, especially the Osage Orange, and illustrated with numerous engravings of plants, implements and processes—to which is added "A Treatise on Evergreens," by Dr. Jno. A. Warder, President of the Cincinnati Horticultural Society, and editor of the Western Horticultural Review. This is a beatiful work, upon subjects which we hope to see more generally attended to by all persons who may own or occupy a lot of land. Nothing adds more to the value of any estate, than its adornment with shrubbery and fruits and flowers, and we hail with much gratification the appearance of all helps to the encouragement of a taste for the beautiful in our homesteads. The book sells at $1 per copy.

From the Secretary, a copy of the Transactions of the Rhode Island Society for the Encouragement of Domestic Industry, in 1857. Also a copy of the Report for 1857, of the Agricultural College of Michigan, and also an Address delivered at the dedication of the College.

We acknowledge the receipt from Henry A. Dyer, Esq., Corresponding Secretary of the Connecticut State Agricultural Society, of the report of Professor S. W. Johnson, chemist to the Society.

Also from J. C. Holmes, Esq., Secretary of the Michigan State Agricultural Society, the Transactions of that Society for 1856, containing also reports of the county Societies of that State. It is a volume of some 800 pages, containing many valuable essays on agricultural subjects.

We are in receipt also of the first two numbers of the monthly Bulletin of the United States Agricultural Society, conducted by B. Perley Poore, Esq. Secretary of the Society.

Lime.—We had in type a continuation of the paper on Lime, from the Patent Office Report, but are compelled to defer it, with a great vatiety of other articles intended for this number.

BALTIMORE MARKETS—March 30.

There is some little indication of improvement in business, yet an evident caution is manifested by every class of the business community, to avoid branching out beyond the immediate necessities of trade. The general disruption that has been experienced, renders it proper to be very cautious, and an indisposition is shown to avoid that system of indiscriminate credit, which has heretofore been the bane of the commercial world. Time alone can give entire confidence to our merchants—for the wreck of fortune and of credit has been so wide spread, and disastrous, that it is difficult to determine who has permanently escaped the financial storm—many who, during the past fall and winter, obtained temporary relief, with the hopes of making collections by the spring, have failed to realize their anticipations in securing debts from country merchants and others, most of whom are in the same category with themselves, though on a smaller scale, hence, a very general uncertainty rests upon the business community, which extends itself through all the ramifications of trade, causing much stagnation in every department of life, and of course in an eminent degree, affecting the price of the produce of the farmer and planter. Money in the banks and with capitalists, never was more abundant, but for the want of good real sound business paper it is held with a firm grasp.

The flour and grain market is heavy, and prices have a downward tendency rather than the reverse. We quote Howard street Flour at $4.37 for super and $5 for extra. Ohio $4.37; City Mills super, $4.50 on time, $4.25 cash; extra, $5 for ordinary, and 5.50 a 5.75 for fancy brands; Family and extra Flour, Balt. ground, $7.50 by the dray load, and extra $6.50.—Rye Flour, $3.50. Corn Meal, $3.20 per bbl. for Baltimore, and $3.25 for Brandywine. Wheat is coming in pretty freely, and there is a good demand for prime, but for other grades, the market is rather dull; sales of red, at 100a105 for ordinary, to good, 108a110 for prime; white, 112a125 for ordinary, to fair, 125a130, for good to prime shipping, and 135a137, and firm for family flour lots; Rye, Va. 65a68c., Pa. 70a71—Corn is firm, and in active

of pressing sales; Md. crop, infer. to good, 4.50a8, with some superior lots as high as $11; ground leaf 3a7; Ohio sells freely; and is sold as fast as received. Wool, prices nominal, 18a20 for unwashed, 25a30 for tub do.; 19a24 for No. 1 pulled; 23a27 for pulled merino: 22a27 for com. fleece, 28a32 for quarter to half-blood do.; 32a35 for ¾ to ⅞ blood do.; 35a40 for ⅞ to full blood; 35a40 for ⅞ to full blood do. and 41a43 for extra wool. Whiskey 21½a22c. for city, and 22a22½ for Ohio, and dull.

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ALBANY TILE WORKS,

Corner of Clinton Avenue & Knox Street, Albany, N. Y.

THE subscribers, being the most extensive manufacturers of Draining Tile in the United States, have on hand, in large or small quantities for Land Draining, Sole and Horse Shoe Tile, warranted superior to any made in this country, hard burned, and over one foot in length. On orders for 5,000 or more, a discount will be made.

Orders respectfully solicited. Cartage free.

C. & W. M'CAMMON, Albany, N. Y.

ap-6t L. M. HATCH, CHARLESTON, S. C. *Agent.*

HARE'S BLOOD MANURE.

IN consequence of the reduction in the price of Peruvian Guano, the price of this manure is reduced to $45 per ton, with a liberal discount to dealers. For certificates of the value of this manure, see March No. of the American Farmer: also see advertisement in the present No.

JNO. L. MIFFLIN, *Sole Agent,*

ap1-1t 140 *South Wharves, above Walnut St. Phil.*

A JENNET--FOR SALE.

A handsome, gentle animal, 5 years old. She is well broken, and would be very useful in working a Garden.

Price, $65. Enquire at this Office. ap1.1t

PEABODY AND WYANDOTTE CORN.

WE have received an additional supply of the *PEABODY CORN*, raised from seed obtained from Mr. Peabody, and is pure and unmixed. Our supply from Mr. Peabody is exhausted. This will be sold at half the price of the fermer lot, *viz:* 50 cts. per quart, or 25 cts. per pint.

Also *BANDELL'S WYANDOTTE CORN*, at his advertised price.

ap1-1t S. SANDS & WORTHINGTON.

PRINTING OF EVERY DESCRIPTION executed in the neatest manner, on reasonable terms, at this Office. Orders solicited.

KETTLEWELL'S MANIPULATED GUANO.

No. 8 Bowly's Wharf, Balt.

No. 1—Composed of equal parts of Best Peruvian and Phosphatic Guanos, and containing 8 per cent. of Ammonia, 40 to 45 per cent. of Phosphate of Lime.

No. 2—½ Best Peruvian, and ½ Phosphatic Guanos, and containing 5 per cent. of Ammonia, 50 to 55 per cent. Phosphate of Lime.

THIS valuable fertilizer cannot be longer regarded as an experiment, but as one of the standard manures for the growth of all crops: we refer to our publication in the March number of the American Farmer, for a more detailed account of this article; every day furnishes us with further testimony in regard to its astonishing effect upon wheat, tobacco, oats, grass, &c. We have yet to learn of a single failure, side by side with Peruvian Guano, the same quantity to the acre—the "Manipulated" has excelled both in quantity and quality of product in first crop—in rotation it has doubled. No better evidence can be afforded, than the continued increased orders of its early patrons. We have no hesitation in saying, that we conceive it to be the best and most economical fertilizer in use. We recommend our No. 2, especially for corn, oats and grass; containing an abundance of ammonia, with a large amount of Phosphate of Lime, maturing the crop and standing the drought better,—the price is also a great consideration to farmers.

No. 1, $45 Per Ton of 2,000 lbs.
2 40 " "

CORN MANURE, for the hill as sold last year with great satisfaction to purchasers, $30 per ton of 2000 lbs.

For Sale by our advertised agents, or can be had in Baltimore. Principal office,

No. 8 BOWLY'S WHARF,

JOHN KETTLEWELL,

ap1- OR G. OBER, *General Agent.*

HARNESS, SADDLERY, TRUNKS, &c.

SAMUEL HUNT,

No. 202 Baltimore street, between St. Paul's and Charles

Is extensively engaged in the manufacture of

TRAVELLING TRUNKS, HARNESS, LADIES AND GENTLEMEN'S SADDLES, BRIDLES, &c. &c.

.*. Also for sale, a large assortment of Whips, Collars, Hames, Horse Nets, Spurs, Bridle Bits, Buffalo Robes, &c. &c. ap1-